The
OIL WEEKLY

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OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

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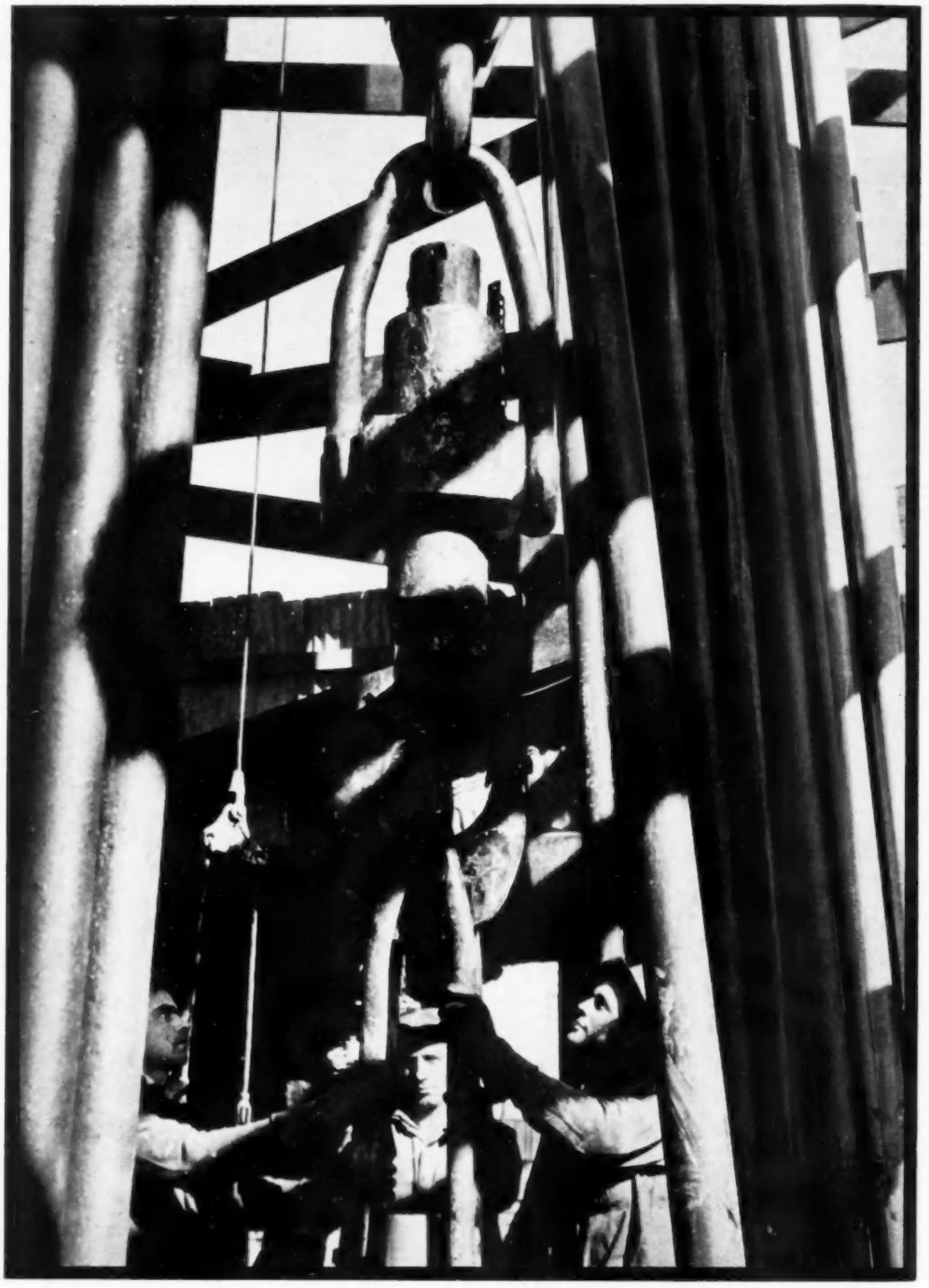
Ready for Service

VOLUME 74 JULY 9, 1934 NUMBER 2



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40 RECTOR ST. NEW YORK, N. Y.

VOLUME 74, No. 4

JULY 9, 1934

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Arkansas, runner up for high honors in amount of gasoline tax—6½ cents for the state and occasionally some city taxes, is taking the lead in a new move. Arkansas courts have upheld a change in the gasoline tax which eliminates all exemptions. Kick had been made against having "agricultural" gasoline taxed. The court said that there was no more injustice in tractor fuel paying road tax than there is in collecting school tax from people who have no children in school. The exemptions were cancelled because of abuse. Too many farmers use tractors to get exemption on the gasoline they use in their cars. That situation exists other places than in Arkansas. The idea of easing the tax burden on the "under dog" that prevails with most legislators can lead only to encouragement of crookedness. To have all motor fuel bear the tax might result in such additional collections that the tax rate could be lowered. And speaking of under dogs—why should a farmer get tax free gasoline for his tractor on the plea that the tractor does not use the roads, when his brother running a truck or a taxicab in town (always on city streets) has to pay the full rate. Arkansas has made a move that will be interesting to watch.

The Texas Railroad Commission has announced it will hold a statewide proration hearing at Austin on July 23, when evidence of changes in conditions in the various oil fields will be heard. The purpose in advancing the date of the meeting, according to the commissioners, was to enable them to promulgate their orders

View of oil field near Nienhagen, Germany.

and have schedules revised for all fields before new orders become effective August 1. This is a good move and an improvement over conditions that have existed in the past, but, according to Dame Rumor, there are other reasons.

It is significant that the advancement of the hearing dates prevents any litigation coming to trial before the next hearing, should operators desire to contest the last order, which reduced the allowable of the state considerably. Likewise significant is the fact that the House investigation committee will have completed its visit to the Texas fields by that time, and will find the Texas situation well in hand no doubt. But, so it is to be heard, the cutting of Texas production was but an empty gesture, made because of the federal investigators' visit and because of election time, and the production of the state will be increased at the next hearing.

Curtailment of production for a one-month period does little good and it is to be hoped that this will not be the case.

Show Down

Under a new arrangement the Department of Justice will handle the prosecution of cases against violators of the oil code. The industry has been promised a shown down on the important and perplexing question of whether the regulations of the oil code can be enforced legally.

It is to be hoped that the promised show down materializes. The uncertainty that has been prevailing has done the industry no good and many have taken advantage of the situation by producing and refining "hot" oil and by selling these products at bankrupt prices. This condition has been to the detriment of all, taking a heavy toll from the capital of both big and little dealers, and at times threatening to result in a lowering of wages to employes. Stabilization cannot be accomplished under such conditions.

A number of violation cases are to be filed at once, according to Washington reports. Upon the outcome of these trials depends to a large extent the immediate future of the petroleum industry—but which ever way they are decided oil men will know where they stand, and government agents will know what steps to take next toward establishing means for control.

If decided in favor of the code regulations it will go a long way toward stabilizing the markets, but if prosecution of violators cannot be obtained the industry will return to chaotic conditions—and efforts of the federal government to rule the industry with an iron hand will be doubled.

Let's hope the show down comes—we will then know what to expect.

The Oil Man's Calendar

AUGUST

24-27 *Drake Well Memorial Celebration, Titusville, Pennsylvania.*

SEPTEMBER

10-14 *American Chemical Society, Cleveland, Ohio.*

19-21 *National Petroleum Association, Atlantic City, New Jersey.*

OCTOBER

1-5 *National Safety Council and American Society of Safety Engineers, Cleveland, Ohio.*

12-13 *A. I. M. E. Petroleum Division, Tulsa, Oklahoma.*

29 *American Gas Association, Atlantic City, New Jersey.*

NOVEMBER

12-15 *American Petroleum Institute, Dallas, Texas.*
American Association of Petroleum Geologists (Pacific Section), Los Angeles.

New Commission?

The governor of Texas is promising (or threatening) a special called session of the legislature to convene in September after the run-off primary in late August, at which attempt again will be made to create a new oil regulatory body for Texas. In the preliminary announcement, which followed earlier denial of persistent rumors that such a session would be called, the governor's spokesman was caustic in criticism of the present board—especially the commission's chairman—and the attorney general for their laxness in enforcement of conservation regulations in East Texas. Previous attempts have been made to remove administration of oil matters from the hands of the railroad commission. Naturally such a proposal becomes a question of great import not only in political circles but to the oil industry. Regulation of railroads by this body once was of importance. In recent years railroad matters have been regulated from Washington. Truck traffic has some attention from the commission. But since the oil industry has grown until it is larger than both railroad and truck industries in the state, the most important function of the railroad commission is its dealing with oil and gas. The oil industry itself is divided on the advisability of a change in enforcement agency. A substantial element would like less politics in the administration of oil affairs and believes that such could be brought about, briefly at least, by a new board. But some observers who are conversant with political ramifications point out that it will be difficult to get the legislature to agree to a different set up because of the army of commission employes who are in position to influence members of the legislature who are more concerned sometimes with keeping friends on the payroll than they are with the general welfare of the state or its principal industry. If and when the session is held, it should prove interesting. The outcome largely will depend upon results of the pending primaries.

Industry Still Needs Stabilization

Extremely important is the East Texas marketing plan, which may bring results at once. Improvement in the East Texas situation would relieve the industry of its most burdensome stabilization problem and make unnecessary complete federal control. Success of the California marketing agreement adds impetus to adoption of such plans. Meanwhile, federal government continues its efforts to police the industry. Last week prosecution of oil code violators was turned over to the Department of Justice, which promises a show down.

By **WARREN L. BAKER**

THE problem of stabilizing the petroleum industry is just as important and apparently as far from solution today as it has been during the past 12 months. However, new experiments are being tried and the industry is hopeful—but results only can tell.

The federal government's line of attack is to establish marketing agreements and to stop "hot" oil production. The past week the Pacific Coast marketing agreement was placed in effect with wonderful results, but in East Texas the same plan has not been so effective, as yet, and this district continues to hold back the entire industry. The week also saw the arrangement of details whereby the Department of Justice will handle all oil code violation cases, which is expected to expedite action that has been stagnant. Other plans of the federal government for controlling the industry, such as the quota-in-commerce provision and the use of new taxes as a means of detecting "hot" oil operations, were marking time.

The most important and immediate stabilization effects can come from the marketing agreement in East Texas. It is fair to all and the industry is awaiting its results. At present enough signatures have been obtained to make it workable to a large extent and no time should be lost in setting it up. If it is entered into with sincerity and its provisions lived up to, the petroleum industry will immediately go a long ways toward stabilizing itself. Improvement in the East Texas situation would influence the entire petroleum market structure from the Gulf to the Great Lakes and from the Pacific to the Atlantic. It is better that the oil business govern itself, as it can under the East Texas marketing agreement, than to continue as it has in the past and thus encourage the efforts of the federal government to control the industry.

Little significance is being placed in the reduced allowable permitted the East Texas field under the new Texas Railroad Commission order. If production could be held to the allocated figure it would be beneficial, but as long as there is "hot" oil being produced, which, naturally, seeks an outlet at lower than posted prices, little real improvement in the East Texas situation can come from a reduced allowable. Furthermore, it may be that East Texas will be held back only one month, new completions will swell its allowable and unless it is given another slash, which is unlikely, at the state hearing to be held July 23, the allowable from the field will be practically as high as before its 50,000-barrel cut on July 1.

Federal Control Program

The federal government continues its efforts to bring stricter control to the oil industry. The second step in its three-point program was announced this week. It is an agreement between Oil Administrator Harold L. Ickes and Attorney General Homer S. Cummings, whereby prosecution of violators of the oil code will be turned over to the Department of Justice.

This move is being regarded as a "show down" for the oil code. A large number of violation cases are expected to be filed at once. The outcome of these cases will determine whether or not oil code violators can continue their practices with impunity to punishment. The greater facilities of the Department of Justice will enable the oil administration to expedite prosecution.

The first step in the federal three-point control program was announced the latter part of June, with the presentation of an amendment to the code that would authorize the administrator to control quota-in-commerce. It has not yet been approved, but early action is anticipated. The amendment would have the effect

of giving Ickes virtual police power over production both nationally and within states.

The third part of the program will be reached in the near future. It calls for the issuance of new and strict regulations for collecting the new mill taxes on production and refinery operations, and will bring the Bureau of Internal Revenue into the control picture. Illegal production operations are expected to be disclosed by this method.

Marketing Agreements

Efforts to stabilize the petroleum industry through marketing agreements in the Pacific Coast and East Texas are of prime importance. They are the chief hopes for maintaining or improving present posted price schedules for both crude oil and refined products. They represent not only a new departure for controlling the output of the oil industry, but suggest to other businesses a way out of their competitive difficulties.

In California the new marketing agreement has been placed in working order and optimism is prevailing. This compares with an industry demoralized by overproduction of crude oil, surplus stocks of gasoline manufactured by refiners lacking adequate storage, and the consequent dumping of gasoline on the market at bankrupting prices prior to inauguration of the new marketing plant. The agency, provided for under the plan, has been set up and has actually purchased some of the unsold, distress gasoline, and there is a growing scarcity of cut price signs. Reports are current that retail gasoline prices are to be advanced again. Last week, when the plan was approved, prices increased two to two and a half cents per gallon. The final steps toward placing the Pacific Coast marketing plan in effect was taken in San Francisco June 30, when the federal government filed a stipulation approving the new plan and agreeing to modification of the federal injunction that had previously forbidden the purchase of surplus gasoline from the small companies by the majors. It is generally believed that the Pacific Coast agency will function to end the repeated gasoline price wars that have disturbed public and industry alike on the Coast, and permit refiners to make a fair profit on their operations by obtaining a fair price. The plan also operates to further the conservation of natural resources by ending the production of unwanted oil and the manufacture of excessive stocks of motor fuel.

In East Texas, turbulent "key" to the oil situation, the marketing was placed in effect with a 12,500-barrel purchase of distress gasoline. Time only will tell how effective it will be, but hopes are high although many are still skeptical of how successful it will be in East Texas. Signatures of 85 percent of the East Texas refiners, the required amount, have been obtained. This will allow majors to purchase distress gasoline from the independent refiners. Those holding little hopes for the plan are of the opinion that "distress" gasoline marketers will not cut down the output of their plants and that "chiselers" will take advantage of the plan—like they have every other control plan for East Texas—until the agreement is finally broken.

The federal government also has under consideration the adoption of a federal marketing agreement, details of which have not been announced, but which are expected to be along similar lines to that of the Pacific Coast plan.

Oil Investigations

The annual investigation of the oil industry is getting under way. This year there are two, one of which probably should be given more attention than has been customary to such investigations in the past. The findings of the most important of these are expected to govern the federal government course toward passage of laws that would control the oil industry.

The Cole investigation committee has started its investigations of oil industry conditions, members are now preparing to visit Oklahoma fields, after which they will go to Texas.

This is the second step of this committee to determine the future course of the federal government toward production control. The first step occurred more than a week ago when 2000 Texas producers, refiners and pipe line operators were mailed a many-sided questionnaire, which is designed to afford the committee first hand, direct information on how the oil man himself feels about the situation.

The committee questionnaire will be directed only to Texas operators for the present, since this state with its huge production is the "heart" of the oil controversy, however, other states will be considered later. Throughout the summer the committee will hold meetings in various oil centers for the purpose of obtaining data and in September it will commence hearings.

Another investigation of the oil industry started this week when the Interstate Commerce Commission started inquiries into the rates and gathering charges for the interstate shipment of crude petroleum by pipe lines. The inquiry was undertaken by the commission on its own initiative and concerns the lawfulness of recently reduced rates.

Department of Justice *Will Prosecute Oil* Code Violators

Washington, D. C.—Prosecution of violators of the oil code has been turned over to the Department of Justice under an agreement between the attorney general and Oil Administrator Harold L. Ickes, it was announced by the latter July 5.

Transfer of prosecutions to the justice department was the second step in a proposed three-point program for enforcement of the code, the first move being taken last month with the presentation of an amendment to the code authorizing the administrator to control commerce. The third point will be reached in the near future, and will bring the Bureau of Internal Revenue into the picture through regulations for collection of the mill taxes that are expected to disclose illegal production operations.

Investigators, attorneys and technical experts of the oil administration will assist the Department of Justice in gathering data on violations as well as in the litigation, it was explained.

"I feel that the greater facilities of the Department of Justice, which are located through the entire country, will enable us to expedite prosecution where necessary," he said.

"Our agreement provides the necessary machinery through which we may move in any area to enforce the provisions of the code where the evidence justifies going into court without requiring the establishment of an extensive legal division in the oil administration. The agencies of the oil administration will continue their efforts to obtain voluntary compliance through discussions and negotiations with persons in the industry before resorting to legal proceedings.

"Our investigating and technical staffs will cooperate in bringing violations to the attention of the district attorneys and in obtaining or preparing evidence.

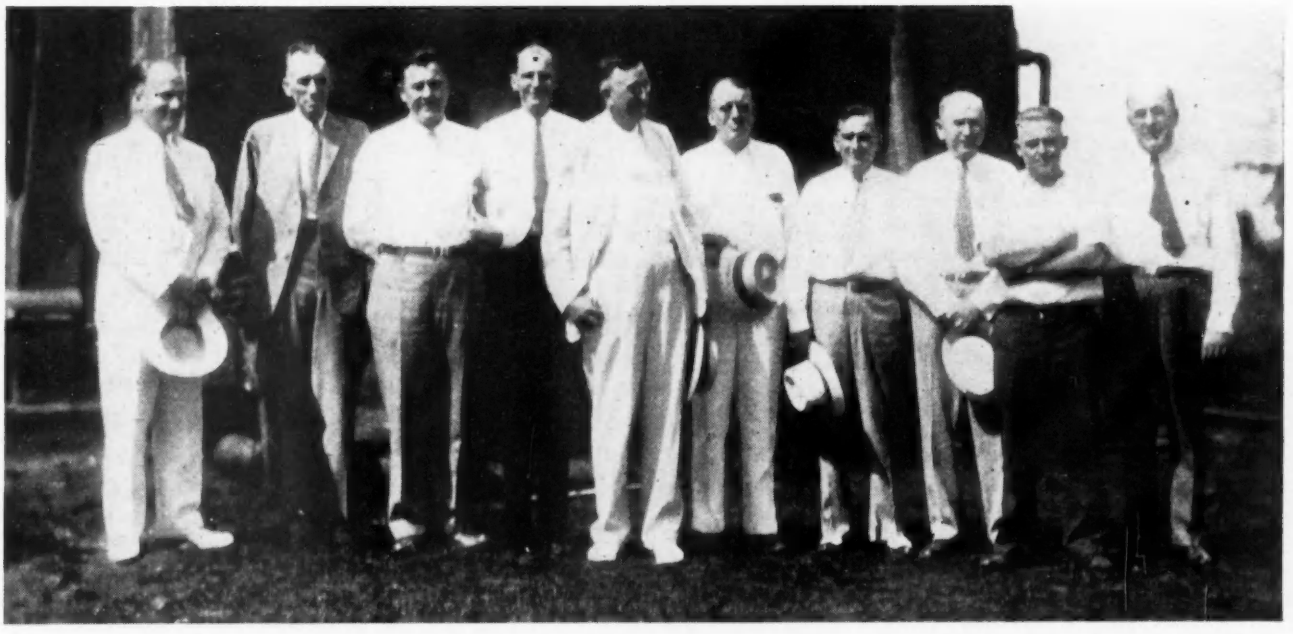
"The Department of Justice is authorizing the district attorneys to proceed with prosecutions where they appear to be justified. This will permit the taking of steps promptly to bring violators before the courts for punishment."

In making known the agreement with the attorney general, Mr. Ickes disclosed that neither the national marketing agreement nor the "quota in commerce" amendment to the code have yet been approved. The first is still under discussion with officials of the Department of Justice, while the latter is on the oil administrator's desk.

Federal Investigating *Committee Visits* Michigan Oil Fields

Mt. Pleasant, Mich.—Investigation of methods of practice and especial observance of the results under the NRA code in Michigan oil fields was carried on here June 27 by the sub-committee of the House Interstate and Foreign Commerce Committee. The committee includes Congressman Carl E. Mapes of Grand Rapids, Michigan; Congressman S. B. Pettengill of South Bend, Indiana, and Congressman Edward A. Kelly of Chicago, Illinois. Congressman Kelly was unable to make the tour with the other two members of the sub-committee.

The committee visited refineries and the Vernon, Chippewa-Greendale and Porter fields in the afternoon following an informal discussion of results of the



Sub-committee of House Interstate and Foreign Commerce Committee and members of Michigan State Oil and Gas Association and Proration Committee snapped while inspecting Michigan oil fields. Standing in front of Pure Oil Company's Bond-Risley 3, Porter township, completed the same day for 6700 barrels daily, the group includes, left to right—George Talbot, Howard D. Atha, president of Oil and Gas Association, E. F. Clagget, manager Pure Oil Company, T. F. Caldwell, James C. Graves, chairman of State Proration Committee, Congressman Carl E. Mapes, Grand Rapids; C. A. Calvert, Congressman Roy O. Woodruff, Bay City; O. H. White, umpire; Congressman S. B. Pettengill, South Bend, Indiana.

code in Michigan and field practices with representatives of the Proration Committee and the Oil and Gas Association. Especial observance was made of code results in view of the fact that Michigan is one of the few oil states where there are no state proration laws.

With the two congressmen on the subcommittee the following made the tour through the fields: Congressman Roy O. Woodruff of Bay City, Michigan; Howard D. Atha, president of Oil and Gas Association; James C. Graves, chairman of the proration committee; George Talbot, H. G. Hunt, E. F. Claggett, C. L. Maguire, T. F. Caldwell, W. A. However, W. L. McClanahan and C. A. Calvert.

The sub-committee plans to launch its investigation of fields in the Southwest starting early in July. Their findings will be used as a background for determining the need of short term legislation for the oil industry when congress reconvenes in the fall.

Investigation Committee Visiting Oklahoma Fields

Washington, D. C.—Members of the Cole investigating committee visiting the oil fields will be accompanied by E. B. Swanson and J. Howard Marshall of the Petroleum Administrative Board, it has been announced by Oil Administrator Harold L. Ickes.

"I feel that committee members have a most important task before them, involving questions of a major national policy, and that several of our most competent men should assist them," the administrator declared. "Mr. Marshall and Mr. Swanson, I believe, will be exceptionally valuable because they are thoroughly familiar with the technical, legal and practical problems of the oil industry and enforcement of code provisions. Every effort will be made by the oil administration to cooperate with the committee members in their work in Washington and in the hearings contemplated in the oil producing states. Our entire staff and all our files, here and in the field, are available for the committee's use.

"The committee, I am sure, wants to gather every fact possible for consideration in formulating a report for the next session of Congress. The oil administration is equally as sincere in desiring that every fact be developed, bearing on the necessity for permanent legislation for the conservation and full utilization of our petroleum resources and the stability of the industry."

Assignment of the board members to the committee was arranged following conferences between members of the committee and officials of the oil administration.

Representative Dies of Texas, special counsel of the committee, left Washington for the southwest this week to arrange for the inspection trip to be made by the committee. No hearings will be held during the course of the trip, but members of the committee will return to the oil fields in September for that purpose.

The itinerary of the committee calls for its arrival at Tulsa July 9 to study the fields adjacent to that city and Oklahoma City. On July 12, the committee will reach Austin, Texas, and will be in Houston July 13 and 14, remaining there for several days, during which it is planned to inspect the refineries from a vessel in the ship channel and talk with oil operators.

The group will leave Houston July 17 for Tyler, which will be its headquarters for a three or four day inspection of the East Texas fields, after which the committee will break up until September.

Investigating Committee Ready to Start Its Work

Washington.—With the Cole investigating committee preparing to gather for its inspection trip through the southwestern oil fields, further details of the itinerary of the group are being perfected and it has been decided that the committee shall meet in St. Louis July 8.

The schedule for Oklahoma calls for the committee to spend July 9 in Tulsa, July 10 at the Bartlesville station of the Bureau of Mines and July 11 at Oklahoma City as the guests of Governor William Murray. The committee will later go to Texas, but will not decide until it reaches Tulsa whether to go to Austin immediately after the Oklahoma City trip or at the beginning of the following week.

As a result of the refusal of several men approached with offers of the position as counsel to the committee, that job may not be filled until hearings are arranged next September, it has been learned. One of the difficulties in getting a competent man is due to the limitation of $3600 fixed for compensation.

During its trip through the southwest, the committee will be accompanied by E. B. Swanson and J. Howard Marshal of the Petroleum Administrative Board, assigned by Oil Administrator Ickes to assist Chairman Cole.

Must Select Two New Administration Members

Washington, D. C.—Successors for two of the three administration members of the Planning and Coordination Committee will have to be selected in the near future as a result of new government duties given Donald R. Richberg, general counsel of the National Recovery Administration, and James A. Moffett of New York. Richberg this week was made director of the Emergency Industrial Committee and detached from his position in the recovery administration. Moffett was named housing administrator by the President last week; he has not yet resigned from the committee, but is expected to do so in the near future. No indications have yet been given as to who will succeed them, nor does it appear to be of great moment, in view of testimony before the Darrow Review Board that Richberg had never attended a meeting of the committee and the other two members had been present but rarely.

Oil and Gas Royalty Regulations Announced

Washington, D. C.—Regulations covering the application of the securities act of 1933 to fractional, undivided oil and gas royalty interests have been issued by the Federal Trade Commission, which has also announced the adoption of a form to be known as Form G-1, to be used for the registration of such interests.

The regulations discuss the amendments to the securities act included in the securities exchange act of 1934, which expressly included fractional, undivided interests in oil, gas or other mineral rights in the definition of the term "security" and which provided a special definition of the issuer of such interests. It also discusses the application to oil and gas royalties of certain exemptions provided by the act and by the regulations themselves.

The regulations are in two parts, one providing what is intended to be permanent regulation, the other applying to all interests coming within the $100,000 limitation imposed by Section 3(b) of the act, if sold on or before August 15, next.

To Receive Bids on State Lands Near Rusk

Austin, Texas.—Bids on three tracts of state land in Cherokee County near the new Rusk field will be received by the State Board for Lease of Eleemosynary and State Memorial Park Lands on July 16.

The tracts offered were as follows: 220 acres, being the south 220 acres of the J. S. Evans Survey. 23.5 acres, being the right-of-way reserved for the old State Railroad. This land is in the Jesse T. Jones Survey. 1954.29 acres of land which had been set aside for the use of the Rusk State Hospital.

Commission Revises *Some Texas* Field Allowables

Austin, Texas.—Revision of the allowables of several Texas fields in various districts was begun by the Texas Railroad Commission last week with increases granted to South Government Wells and High Island.

The order on the South Government wells field completely changed the method used in distributing the allowable there. The field has been on straight acreage, but the new order provides that allocation shall be on bottom-hole pressure alone. Wells with a pressure of 500 pounds or less receive 20 barrels per day, while those with pressures of 800 pounds or above are allowed 60 barrels per day. Those wells falling between the two extremes receive proportionate allowances. The order became effective on July 1.

The institution of this plan of allocation may be the forerunner of changes anticipated in several Texas fields. It is probable that the Van field will be placed on a similar basis after the hearing on July 12.

Engineers of the commission were unable to determine the exact amount that the field allowable would be increased under this order, but the most conservative estimate was 2000 barrels daily. Reed and McKay, joined by other operators in the field, recently made an application for an increased allowable, declaring that the North Government Wells area was enjoying a higher allocation to the disadvantage of the lower field.

The High Island field allowable was increased 1000 barrels per day, effective July 3, to take care of new completions in the field. This resulted in a total allowable of 8500 barrels per day.

The allowable for East Texas on July 3 was reported to be 463,860 barrels per day. At this time there were 13,764 producing wells on the proration schedule, of which 988 were classed as marginal and assigned an allowance of 20 barrels per day. The total hourly potential of all wells in the field was calculated to be 10,190,006 barrels, according to the commission engineering department at Kilgore.

These changes, together with the revised allowable for East Texas resulted in a total allowance for the State of 1,014,877 barrels per day, as of July 3. This figure is still far below the production recommended by the Department of the Interior, which was 1,042,100 barrels per day for the month of July. Gradual increases during the month, however, will probably adjust this difference.

Reports from the commission's engineering office at Kilgore show that runs to refineries averaged 67,704 barrels per day during the week ending July 1. This was an increase of 6489 barrels per day over the average for the previous week. During this period 49 refineries were operating in the field, 33 were shut down, and five were in process of construction.

The total allowable for the field on June 30, the last day in which the order permitting production of five percent of the hourly potential was in effect, was 512,121 barrels per day. The reduction of 10 percent, which permitted the running of 4.5 percent of the hourly potential beginning on July 1, resulted in a total allowable of 463,573 barrels per day, a reduction of 48,548 barrels per day for the entire field.

Under the old order there were 704 wells classed as marginal. This included all wells with an hourly potential of 400 barrels and less. The new order included 988 wells in the marginal class, and applied to all wells with an hourly potential of 445 barrels and less. In each instance these wells receive the minimum allowance of 20 barrels as required by the marginal well statute.

Completions are still being made at a fairly high rate. During June 337 wells were completed and added to the proration schedule.

Completed figures on the new allowable for the South Government Wells field released by the Texas Railroad Commission Friday showed that the total allowable for the field is 4832 barrels per day, an increase of 2432 barrels over the allowance in effect before July 1. The per-well allowance was increased from 21.42 barrels to 42.8 barrels. This is the first order of the commission fixing allowables for a field based on bottom-hole pressures alone and is believed to be the forerunner of several orders of this type to be issued in the near future.

The Texas Railroad Commission on Friday issued orders increasing the allowables of five West Texas fields effective as of July 3. Church and Fields was increased 1592 barrels to 8972 barrels per day. Gulf-McElroy was raised the same amount to 6176 barrels. The McClintic field was increased 463 barrels to 823 barrels per day. The Scarborough allowable was raised 2000 barrels to 4000 barrels per day. An increase of 1000 barrels for the South Ward field was granted, resulting in an allowable of 5800 barrels daily.

These increases brought the district allowable up to 141,736 barrels per day, an allowance higher than it was before the 10 percent cut in Yates was instituted on July 1. The total increase amounted to 6647 barrels for the West Texas.

To Take New Potential Gauge of East Texas

Austin, Texas.—New Potential tests for all key-wells in the East Texas field were ordered by the Texas Railroad Commission on July 6. The tests are to be completed on or before July 15. Operators who desire to have their wells included with key-wells for testing must comply with the commission requirements for equipping the wells, and submit their requests in writing. The tests will be the usual two-hour open flow tests, and the oil produced will be charged back against the allowable of the well during the coming month.

A complete set of rules has been prepared by Chief Petroleum Engineer Gordon Griffin setting out the method of equipping wells for tests, and conditions under which the tests are to be made. All tests must be made in the presence of a commission employee who will supervise the operation, and operators of offset lease may be present as witnesses.

Texas to Hold Another Statewide Proration Meet

Austin, Texas.—A statewide proration hearing to be held in Austin on July 23, has been announced by the Texas Railroad Commission.

At this hearing the commission will consider evidence of changes in conditions attendant to physical waste in all Texas oil fields since the last hearing was held on June 26.

It is probable that additional nominations for purchase of Texas crude during August will be called for, although this information was filed at the last hearing.

Commissioner Thompson explained that the purpose in advancing the date of the hearing was to enable the commission to promulgate its orders and have schedules revised for all fields before the orders become effective on the first day of August.

He pointed out that in the past, hear-

ings have been held nearer the end of the month, and that as a result, schedules have not been prepared on all of the fields till the fourth or fifth of the month in which they are effective.

Van Hearing to Be Held This Week

Austin, Texas.—A hearing on the Van field, Van Zandt County, has been set for July 12 at Austin by the Texas Railroad Commission.

The principal purpose of the hearing will be to consider revision of methods of distributing the allowable of the field between the various wells, although all matters relating to operation of this field will be open for consideration.

The Van field has been prorated on the unit basis for several years, and operators have been satisfied with the orders issued on this basis.

However, J. D. Wrather has recently attacked these orders in federal court, alleging that they were invalid and seeking an injunction against them.

Federal Judge Randolph Bryant told Wrather that no injunction would be issued until the commission had declined to act on his request for a revision in the method of allocation.

Pipe Line Rates Being Investigated

Washington, D. C.—The Interstate Commerce Commission this week began an investigation of rates and gathering charges for the interstate transportation by pipe line of crude petroleum as carried in schedules recently filed by Atlantic Pipe Line Company, Empire Pipe Line Company, Humble Pipe Line Company, Oklahoma Pipe Line Company, Shell Pipe Line Corporation, Sinclair Prairie Pipe Line Company, Stanolind Pipe Line Company, Texas Pipe Line Company of Oklahoma, Texas-Empire Pipe Line Company and Illinois Pipe Line Company.

The investigation will cover rates from wells in Kentucky, Arkansas, Kansas, Oklahoma, Louisiana, Texas, Illinois and New Mexico, to destinations in Illinois, Indiana, Michigan, Missouri, Kansas, Oklahoma, Texas, Ohio, Kentucky, West Virginia and Louisiana.

The inquiry was undertaken by the commission on its own initiative, and concerns the lawfulness of the reduced rates and gathering charges carried in the tariffs filed by the several companies "to determine to what extent and in what manner, if any, said rates and charges are or may be unreasonable, unjustly discriminatory, unduly prejudicial, unduly preferential, or otherwise in violation of any provision of the Interstate Commerce Act."

Seven Members Resign *from Texas* Petroleum Council

Austin, Texas.—Five prominent Texas independent oil operators have withdrawn from the Texas Petroleum Council during the past week, charging that the organization had abandoned its constitution and was engaged in controversial measures of which they did not approve.

J. R. Parten, president of the Woodley Petroleum Company and the Independent Petroleum Association of Texas, headed the list. He was joined by Mills Bennett, J. S. Abercrombie and G. W. Strake of Houston, and Jack Frost of Byrd-Frost Oil Company at Dallas.

Bailey W. Hardy, Austin attorney and executive vice president of the Independent Petroleum Association of Texas, and Myron Blalock, Marshall attorney who has championed the cause of Texas independents, also withdrew their memberships in the council.

An open letter signed by each of the seven dissenting members was sent to Lloyd Wheelock, president of the council. This letter gave a full explanation of their views, and cited specific occasions when the by-laws of the organization had been violated, in their opinion.

That section of the by-laws was cited which says that the council is expressly prohibited from "taking sides upon controversial issues and declare it to be a non-political and non-lobbying institution. They further prohibit the council or its representatives from indulging in criticism of public officials or use of influence in legislative matters and formulating of proration rules and regulations."

The letter pointed out that in the past protests had been registered from time to time against activities of council employes that tended to violate the spirit if not the letter of this section of the by-laws. In some instances, it said, these conditions had been corrected, but in others they had not.

As an example, it was pointed out that "the council's attorney, Fred Weeks, appeared before congressional committees and actively supported the passage of the Ickes federal oil control bill. Mr. Weeks appeared, not for the council, as he expressed it, but he qualified as an expert upon enforcement conditions in East Texas by reason of his position with the council and supported the bill and testified in effect that in his opinion Texas could never enforce oil control regulations."

The letter also pointed to press reports of a recent conference of the council in Houston, where it was reported that R. D. Parker was urged as federal enforcement officer for Texas, which the papers regarded as a slap against the Texas Railroad Commission for discharging him.

Protest was also registered against a resolution emanating from this meeting calling upon the commission to hold open tender hearings in the East Texas field, and requiring witnesses to be placed under oath.

"We feel," the signors said, "that no constructive good will come by criticizing the regulatory bodies elected by the people of the state.

"We acknowledge that the council has drifted beyond the field of its original purpose as defined by the by-laws, *with what we believe to be the will of the majority of its members and supporters.*

"The council's original plan and ideal to be simply a fact finding body as an aid to enforcement of oil regulation was sound and commendable. But we believe now, as always, that practice of partisanship on controversial issues, legislative influence and influence upon formulation of rules and regulations and criticism of public officials will destroy its effectiveness and constitute acts to which we desire not to be parties.

"We now, as always, are profoundly in favor of strict enforcement of the oil proration laws of Texas and we shall continue to lend our support vigilantly to that end. As a matter of policy we believe that the most constructive good can come of our efforts when directed in a sympathetic way to aid our public officials in their constant struggle with the gigantic task of enforcement with which the statutory law has charged them."

Court Upholds Commission Residue Gas Ruling

Austin, Texas.—An injunction restraining Garland Clymore and the Nueces Refining Company from blowing into the air residue gas from their stripping plant in the Agua Dulce field was issued by a Travis County district court during the past week.

Clymore obtained a permit to operate the plant from the commission, but the permit required that all residue or tail gas must be returned to the sand to which it was indigenous. This was the first order of its kind ever issued in Texas, and was intended to prevent the waste of any gas.

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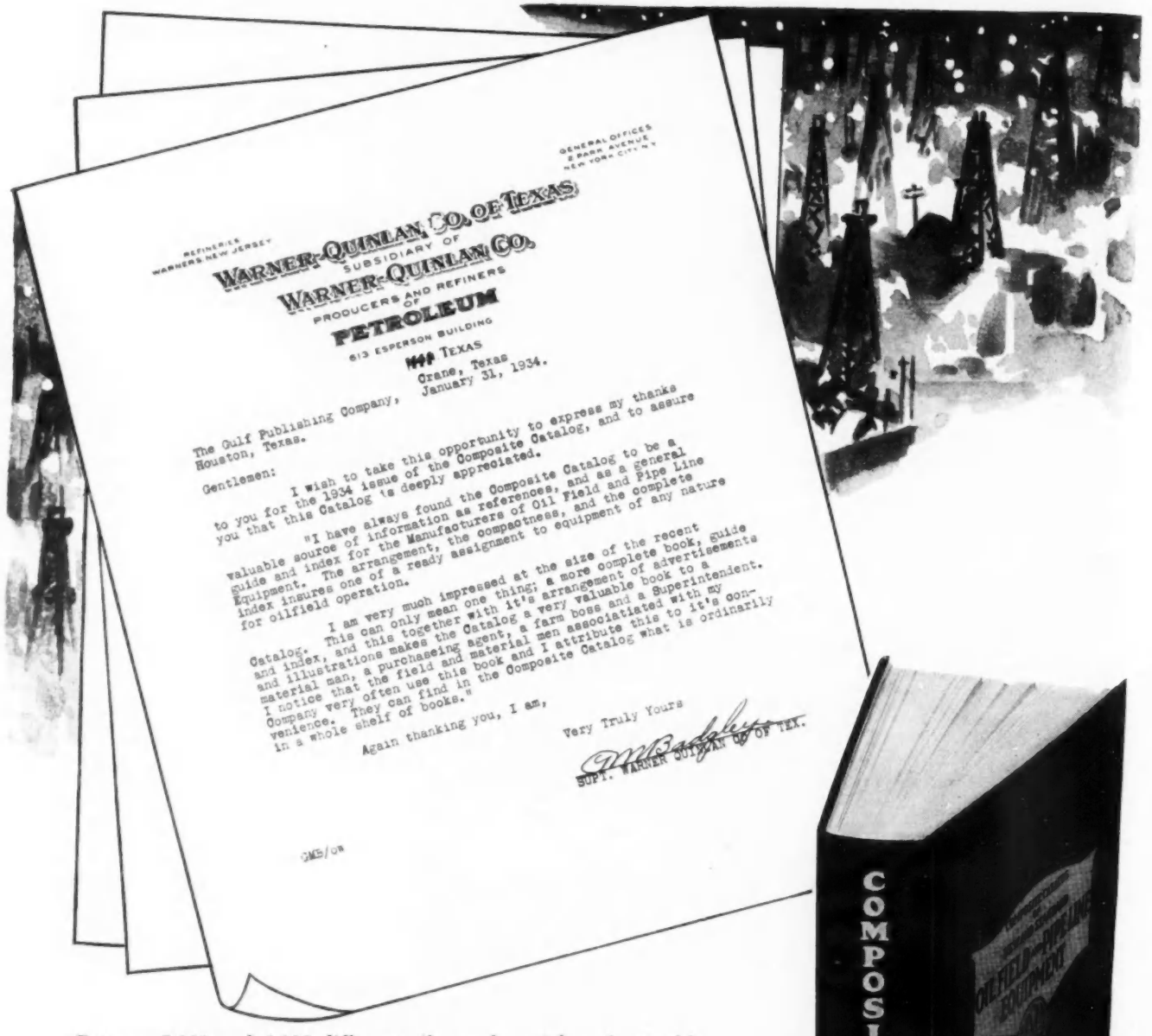

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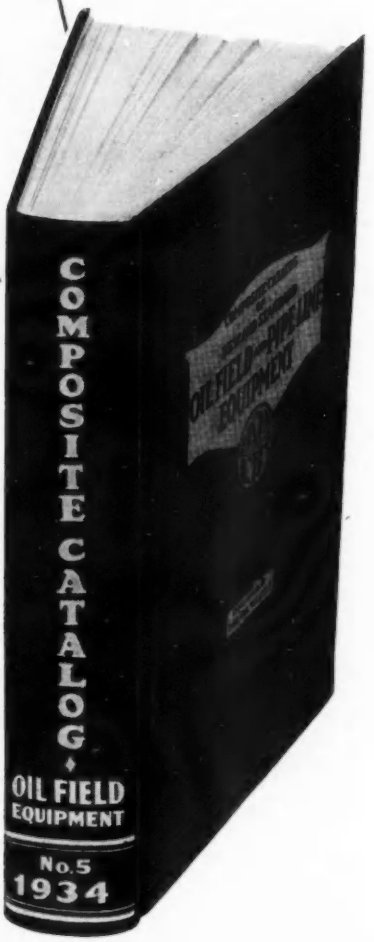

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Effect of Market *Price of Crude Oil*

On the Economic Limit of Stripper Wells

JOHN M. HOUCHINS
Petroleum Engineer
Phillips Petroleum Company
and
I. F. BINGHAM
Petroleum Engineer

THE present paper was prepared with a view to bringing to the notice of the industry a record of the stripper wells plugged from 1927 to 1933, inclusive, together with a curve covering the crude price structure during this period.

The years from 1927 to 1933 were chosen because these years cover pre-depression days, the period of the greatest depression the industry has known, and also the period when the industry seems to be recovering from the depression.

Analyzing the price structure and the record of stripper wells plugged in Oklahoma, as shown in Figure 1, we may arrive at some very definite conclusions.

EARLY in 1927 there was a drastic reduction in the price of oil, which continued until oil reached a price of about $1.25, in March. At this point, we note that the number of wells plugged per month in Oklahoma increases from 56 to 72. As the price remains constant at $1.25, the number of wells plugged decreases until they reach an all-time low, in August of 1927, of approximately 10 wells per month. Beginning in November of the same year there is a rather drastic increase in the number of wells plugged until they reach about 100 per month. This may be attributed to the fact that the price structure had not improved as anticipated by the industry. In March of 1928 we have another reduction in crude oil price, followed by an increase in the number of wells plugged until they reach a total of 152 per month. In the summer of 1928 the price of crude increases slightly with a consequent decrease in the number of stripper wells plugged. In the early part of 1929 there is a drastic reduction in crude oil price, which, coupled with the threatening of the impending depression, resulted in a peak for the number of wells plugged of about 350 wells per month. The peak, however, it will be noticed, occurs at a time when the price structure has materially increased. The probable explanation is that the orders for plugging had been given in February and March when crude prices fell below $1.20 a barrel and that these wells were in process of plugging or that the orders were not countermanded after the crude price improved. During the latter part of 1929, the number of stripper wells plugged decreases rapidly as the price structure remains constant, for a period of several months. Another explanation of this curtailment of plugging stripper wells can be accounted for by the fact that most wells on the border line of economic production were plugged during the first half of 1929. In January of 1930 a further decline in crude oil prices resulted in the number of stripper wells plugged increasing from about 30 per month to about 130.

Tracing this relationship of price and the number of stripper wells plugged up to the present time, we find that as the price works lower and lower during the period of the depression of 1931 and the summer of 1933, there is a consequent increase in the number of stripper wells plugged; and. even at the close of 1933, we see the same factors operating. When the price had increased to $1.00 in the latter part of 1933, the number of wells plugged each month has fallen from slightly less than 100 to slightly more than 20.

The discovery of the East Texas field in 1930 perhaps influenced the number of wells plugged in Oklahoma after that date since much of the casing used in that field was salvaged from Oklahoma stripper wells.

If the factors that seem to be apparent from the study of this curve are operative, as we believe, and if the same trend exists in other producing states, we may conclude that the depression has lost to the United States an untold amount of natural resources in the form of unproduced crude oil; and this should be a convincing argument in favor of stabilization of price for this commodity.

After studying the above curve, the following questions were submitted to the operators in the state who had been responsible for plugging many of the wells during the period referred to. The questions with the summarized answers follow in their order.

1. What did your company consider the lower limit for a profitable pumping well prior to 1928?

The lower economic limit for a stripper well prior to 1928 depended upon many factors, but chiefly upon a sufficient price of oil to repay operating costs plus a reasonable return on the salvage value of the equipment. Other factors included would be number of wells on the lease, whether well was operated from a central power or pumped as a unit, the amount of oil produced, possibility of shallower or deeper sand, ownership of adjoining leases, etc.

In view of all the above-mentioned considerations, it can readily be understood that each well creates an individual problem in deciding what is its economic limit. The point where income balances outlay depends upon all the factors involved. The following figures were submitted by one company: Assuming crude price of $1.50 per barrel and a lease with several wells producing from a depth not to exceed 2000 feet, it might be possible, if other factors were favorable, to produce wells down to a limit of one barrel daily for individually pumped wells and one half barrel daily for wells pumped by central power. Probably under crude prices existing during the period of depression the lower economic limit for a well in this state would be about 1½ barrels daily for an individually pumped well and three fourths of a barrel daily for a central power well.

2. Has the economic limit been raised since the depression?

Not all companies who responded to this question gave a direct answer. It was not possible in all instances to do so. Perhaps 50 percent of the companies stated definitely

that the economic limit of a stripper well had been increased during the time of the depression. Some companies could not answer the question definitely, that is in terms of figures, for various reasons that will be discussed in summarizing the paper, such, for instance, as the decision to shut the well in or the fact that the wells involved were causing no mechanical difficulties and labor costs had decreased to the point where lifting costs had not shown material increase.

3. What has been your policy toward repairing and reconditioning wells prior to your decision to plug said wells?

Here again it seems that each company treats the well in question as an individual problem, the tendency being to plug and abandon isolated wells, whereas the same well if located adjacent to other company property could be repaired and profitably kept on production. Repairing and reconditioning stripper wells has always involved a good deal of speculation as to whether the returns will justify the expenditure of any considerable amount of cash. The prevailing policy seems to be that repairing and reconditioning is not recommended unless the possibilities strongly indicate that the well in question will return, in increased production, enough to compensate for the cash outlay, and that within a very few months.

4. Has this policy in any way been changed since the depression?

The consensus of opinion as taken from the answers is that the policy has not been changed, but that price structure, being a factor involved in the policy, necessarily had to be taken into consideration and the natural result is that many wells have been plugged which otherwise would have been kept on production.

5. Is it your belief that many wells plugged within the past five years could have been produced profitably under normal conditions?

The answers to this question were somewhat divided. However, the majority replied in the affirmative. It is likely that many wells have been plugged in the past five years in order to recover equipment for use in more profitable ventures that would not have been plugged during times of normal crude prices. Higher crude prices would have extended the lives of many wells, but during the depression the companies were faced with the necessity of eliminating losses and could not afford to operate stripper wells at a loss under the hope that large flush pools would not be discovered in the near future.

6. Has your company ever formulated a plan by which these stripper wells might be favored so that their producing life could be profitably extended?

The majority of the companies responding were opposed to any such program and nearly all seemed to be in accord that the logical solution of this question is the stabilization of price within the industry.

7. Under normal conditions would it have been the policy of your company to resort to repressuring methods prior to abandonment of stripper wells, and to what extent has this

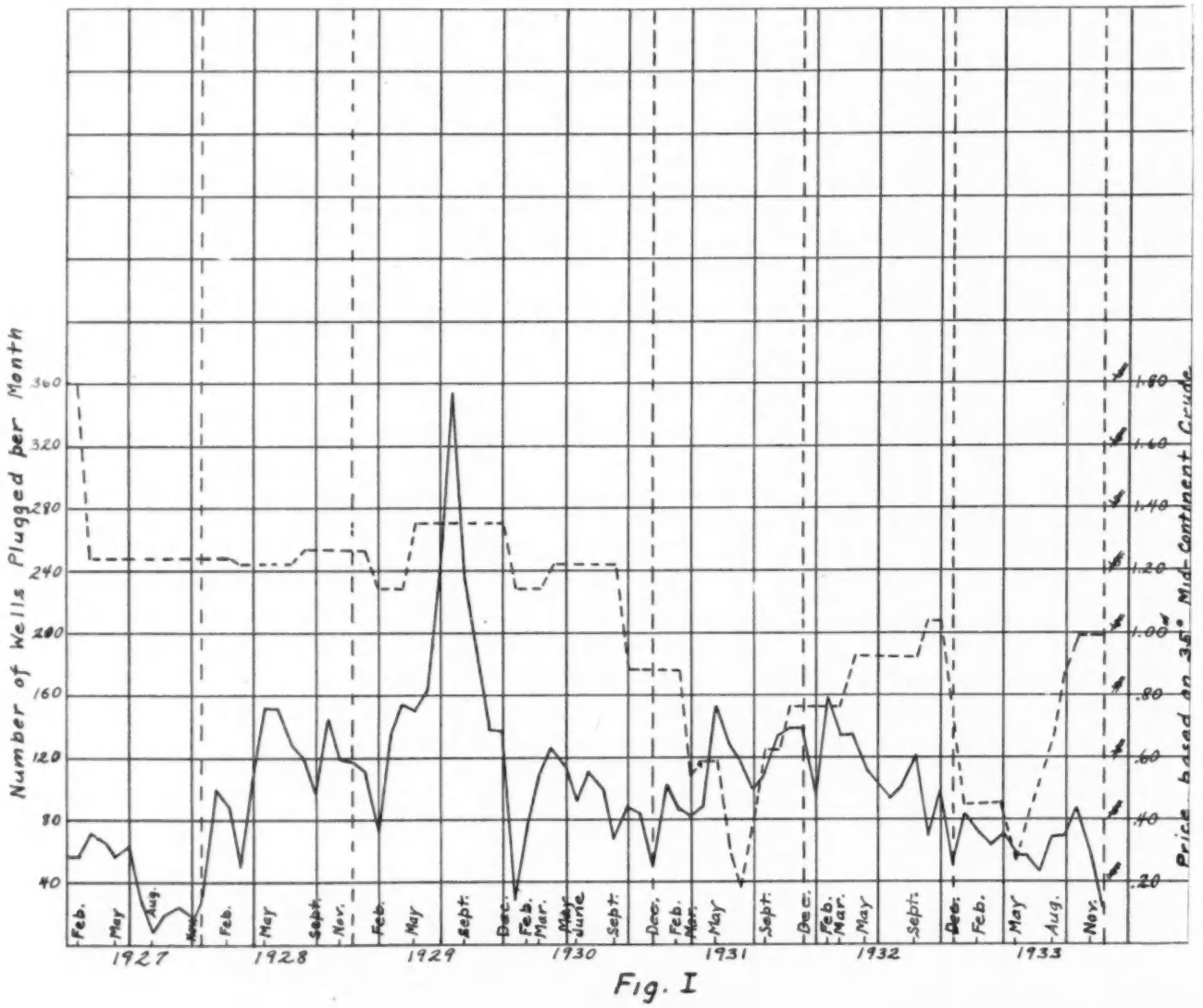

Fig. I

policy been changed by the unstable conditions within the industry?

The responses to this question would not indicate that the majority of the companies in question were very enthusiastic about repressuring depleted sands. Those who answered definitely upon this question seemed to be of the opinion that repressuring could very probably not be carried on at a profit where the price of crude fell below $1.25. In view of the fact that casing head gasoline, which in many instances determines the principal revenue from repressuring, has sold at such ridiculously low prices in recent years, repressuring in this area has not been looked upon with favor by the industry. One thing is certain, the depression has undoubtedly retarded repressuring to a great extent by virtue of the fact that the average company did not wish to make a cash outlay as large as would be necessary to initiate a repressuring program.

Some very fine points were brought out in these responses that were not included as answers to the questions. Some companies obviated the necessity for plugging stripper wells prematurely by simply closing them in and awaiting future developments in the price structure. Fortunately, those cases were frequent enough to save many wells that would otherwise have been abandoned. Some companies sold these stripper leases to a trusted employe or sublet these leases to said employe, under the theory that the employe, who would otherwise have been discharged would be able to earn a livelihood and to keep employed; that many times this employe could operate the well at a profit, whereas the operation by the larger integrated company would have shown a loss, due to excessive overhead. There was also a continuation of the income to the royalty owner and a recovery of oil which would otherwise have been lost.

In conclusion, it would seem to the writers that the chief benefits arising from this study point graphically to the fact that uncontrolled production practices and development campaigns along with crude oil prices based upon distress gasoline have a greater significance than we ordinarily attribute to them; that is, the direct and immediate loss to the operator. When we consider the number of people who lost employment in Oklahoma during the periods when crude oil prices forced operators to plug stripper wells in excessive numbers, we grasp some idea of the social evil which accompanies an industry which is permitted to grow up like "Topsy."

High Gas Ratio in Greta Field Reduced By Simple Control Method

EARL S. POST
Staff Representative

A PRACTICE of setting formation packers in the producing horizon to reduce excessive gas ratios in oil producers likely will result from the success obtained by Stanolind Oil & Gas Company in one test in the Greta field, Refugio County, Texas. The well was flowing dry gas but after being reworked it was converted into an oil producer making its regular proration allowable.

The well is Thomas O'Conner 1, northwest corner of a 100-acre tract in the N. S. Crunk Survey, and in the extreme southeastern portion of the field. It originally was completed as a 320-barrel oil well on a quarter-inch choke December 6, 1933, showing a tubing pressure of 1500 pounds and casing pressure of 1600 pounds. Its gas-oil ratio continued to mount and the well finally went to dry gas. The well at that time was the property of Southwest Oil Corporation, and later was taken by Stanolind Oil & Gas Company.

The seven-inch O.D. casing was set at 4344 feet, with the total depth being 4392 feet, the well taking in 48 feet of formation. Fifty-one feet five inches of blank liner and 30 feet five inches O.D. 0.014 gauge screen was set with nine feet of six-inch packer. This was the original completion.

Daily Report of Stanolind Oil & Gas Company's T. O'Conner 1

Date	Oil Output Bbls.	Gas Output 1000 Cu. Ft.	Size Chokes	Tubing Pressure	Casing Pressure	Hours Gauged
4-7	0	cleaning	1/8	1540	1275	24
4-8	0	blowing	1/8	1540	1275	24
4-9	0	blowing	1/8	1500	1300	24
4-10	21	not given	1/4	1460	960	18
4-11	44	not given	1/4 & 1/8	800	1000	24
4-12	156	not given	1/4 & 1/8	900	1125	24
4-13	153	1,500	1/4 & 1/8	1050	1300	24
4-14	86	710	1/4	1250	1500	24
4-15	48	700	1/4	1250	1575	24
4-16	78	700	1/8 & 1/4	1275	1500	24
4-17	78	700	1/4	1250	1550	24

The first part of April, the well was worked over, the liner, screen and packer being pulled. On the new completion, the following equipment was run to the bottom of the hole: six-inch back pressure valve; six-inch collar; 14 feet five inches of five-inch O.D. 0.010 gauge screen; 15 feet two inches of formation packer; 46 feet four inches of blank liner; seven feet of ratchet packer. The string of 2½-inch tubing was swung at 4377 feet. Of particular interest is the position in which the formation packer was set. It was bottomed between 4374 and 4376 feet, just above the top of the screen.

The results of the test by days from April 7 to 17, inclusive, will be found on the accompanying table. The well was being brought in on the first day shown and was considered as being on regular production the last day shown.

The Greta field has a situation of a heavy producing gas horizon immediately overlying the regular oil sand. In some cases it is divided by streaks of shale, hard sand, ash or other substance; at other times, however, it is a single sand. It is likely that the entire section will ultimately produce oil, that is when the high gas pressure is dissipated. This being the case, operators who set casing in the sand section to cut off the upper gas pressure will benefit immediately, but likely will lose the top production at a later date. By setting casing atop the sand and setting a liner and formation packer, the gas pressure is taken care of for the present and the well can be worked over and new liner set at such time the entire oil section should be produced.

In determining the point at which the packer should be set, Stanolind Oil & Gas Company found it necessary to run an electrical testing device to determine the condition of the formation, the hard and soft spots and the gas and oil zones. This test enabled them to determine the exact position the best seat could be obtained for the packer.

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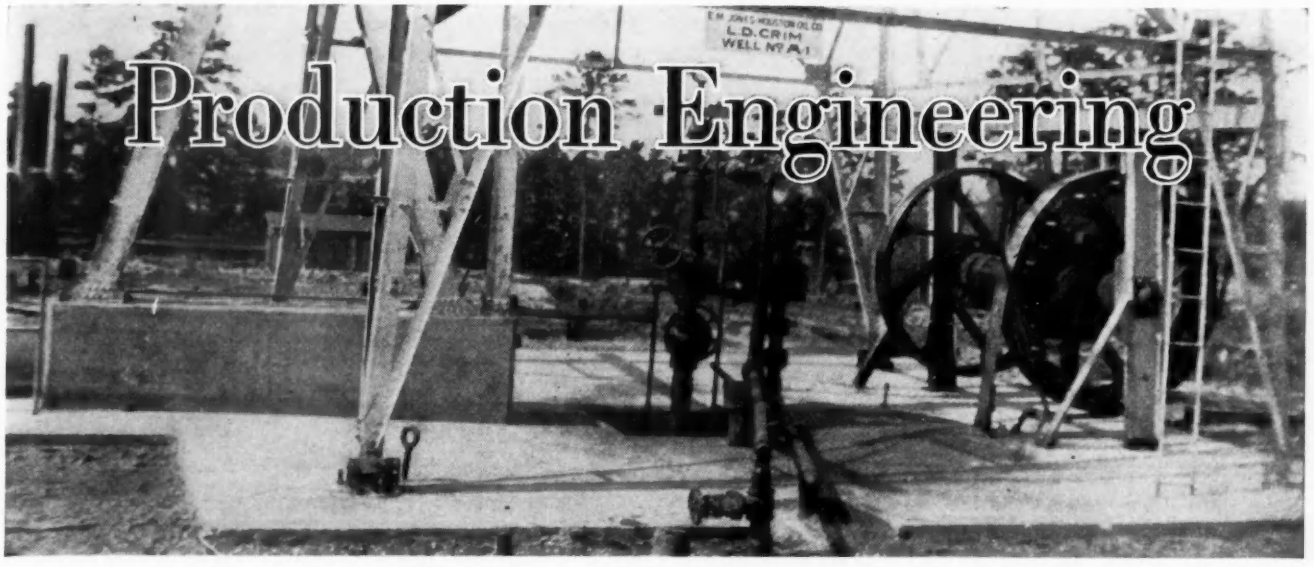

Production Engineering

Air-Lifting Oil *to Take Advantage of Existing Pressure* in East Texas

S. F. SHAW
Consulting Engineer

A METHOD of air-lifting oil has been installed by T. D. Humphrey interests on the Spear lease in the East Texas field, in which maximum advantage is taken of existing high reservoir pressure and of gas associated with the oil. The procedure follows in a general way the method outlined in an article published in THE OIL WEEKLY[1] in which the operation is of the intermittent type without bottom-hole chamber, with the oil flowing through the tubing, suspended low in the hole, and using "kick-off" valves for reducing the starting pressure. In this case the term "intermittent" is not exact since the wells are started each day and operated continuously for a short time until the allowable production for the day is obtained.

The Spear lease is located in the Van Winkle Survey, Gregg County, near the town of Kilgore. There are nine wells, from which derricks have been removed, leaving only a simple hook-up at each well such as is shown in Figure 1. The casing is seven-inch outside diameter and the tubing is of 2½ inches, suspended about 40 feet off bottom. Compressed air is pumped through two-inch pipe from the plant to each well.

The wells are produced on natural flow until they give signs of weakening, at which time the tubing is removed and starting valves inserted at intervals of about 300 feet, the topmost valve being placed at the approximate static level of the fluid, or about 800 feet below the surface. The equipment selected for the purpose consisted of a "heading" valve placed near the lower end of the tubing, designed for steady or intermittent flow, above which are inserted the "starting" or "flowing" valves to eliminate the necessity of building up high pressures. There are usually seven of these valves placed in the tubing string in the East Texas field. The hook-up at the casing head is shown in Figure 2. Just after this equipment was run, and before the more permanent compressor unit was installed, it was necessary to employ a portable compressor for starting the flow the first time. Total cost of the valve equipment averages approximately $400 per well.

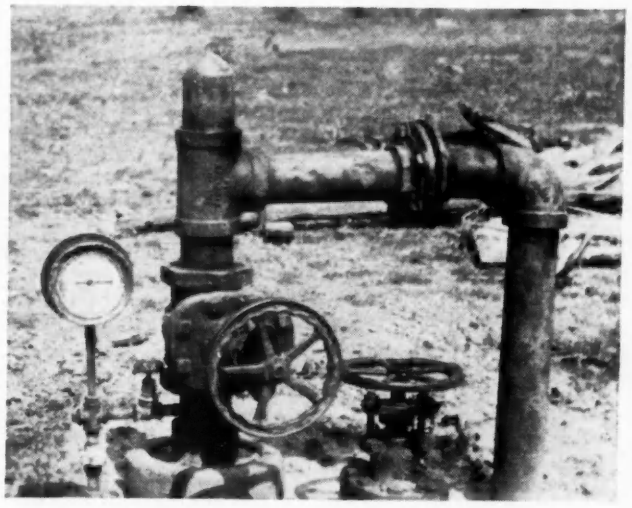

FIGURE 1

Hook-up at well head on a Humphrey Spear lease well, showing tubing and pipe for equalizing the pressure on tubing and casing.

For several months after the valves were installed no compressor was required, inasmuch as sufficient gas would collect in the annular space between the tubing and the casing to start the wells through the flow valves, when the valve at the tubing head was opened.

The compressor plant, completed recently, contains a 13 x 5½ x 10 compressor, costing $6850 f.o.b. East Texas, including starting compressor, air tanks and water circulation pump. The displacement capacity is 664,000 cubic feet per day, and actual delivery at 300 pounds pressure is estimated at 616,000 cubic feet per day. The construction work for installing the compressor amounted to $1650, making a total cost of $8500 for the installation. The compactness of the unit may be observed in Figure 2.

In most of the wells, conditions are such that it is necessary only to start the wells with the aid of the compressor, after which natural flow commences and continues until the allowable for the day is obtained, after which the wells are shut in until the following day.

All the wells flow into the separator shown in Figure 3, the oil then gravitating to the tank battery.

Compressor usage is limited to about one hour each week. As the reservoir pressure declines, or as allowables are increased, it will be necessary to employ the compressor for a longer period each day, and this time will gradually increase until the plant will be in service 24 hours per day. In case the allowable is raised at some time in the future, it may become necessary to add one or more compressor units to the plant, but it will not be necessary to change the pipe lines from the plant to the wells, or to make any changes at the wells. At this time the plant could handle probably several times as many wells as have been drilled on the lease.

While pulling jobs promise to be rare, such jobs as may occur will be handled by a portable pulling machine, since there is no equipment of any kind at the wells. This manner of holding down the amount of equipment installed at the wells reduces the capital investment to a low item.

Cost of Installation and of Operation

Total cost of installing the plant and equipping the wells with these valves is approximately as follows:

	Per Well	Total for 9 wells
Compressor plant, installed	$ 944	$ 8,500
Valve equipment in the wells	400	3,600
Total	$1,344	$12,100

Total operating costs should include depreciation on the plant as well as the usual lease expense. Fixed charges per year, based on $12,100 would be about as follows:

Depreciation at	15.0 percent	$1,815.00
Interest	6.0 percent	726.00
Taxes	1.5 percent	181.50
Insurance	1.0 percent	121.00
Maintenance	1.5 percent	181.50
Total	25.0 percent	$3,025.00

Total operating costs per month would then be about as follows:

	Per Month
Fixed charges, at $3,025 per year	$252.10
Lubricating oil, 25 gallons at $0.50 per gallon	12.50
Gasoline for starting, 30 gallons @ 15c per gal.	4.50
Labor, ½ man at $125 per month	62.50
Total, per month	$331.60
Present allowable at 33 bbls. per well per day	8910
Cost per barrel	$0.037

There would be an additional expense for labor for switching tanks, general lease upkeep, cleaning tanks, etc., amounting to one half man per day, also there might be allowed $50 per month for such outside assistance as may be needed, which two items would amount to about $112.50 and would average $0.0126 per barrel, making a total lifting cost of $0.0496, or approximately five cents per barrel.

The present allowable is 33 barrels per well per day. If the allowable should be doubled, the arrangement is such that practically no additional operating expense would be necessary, consequently the lifting cost per barrel would be reduced proportionately.

On the other hand, increases in production can be made to whatever extent the well is capable of responding by adding compressor units, with no need for general revamping of equipment at the well. Should it ever be necessary to step-up the production to several thousand barrels per day, the method is such that this could be done merely by reversing the flow and producing the oil through the casing, after additional compressor units had been installed.

In considering methods that can be employed for lifting oil in the East Texas field, it should be remembered that until the pressure has declined to about 750 pounds[2] no

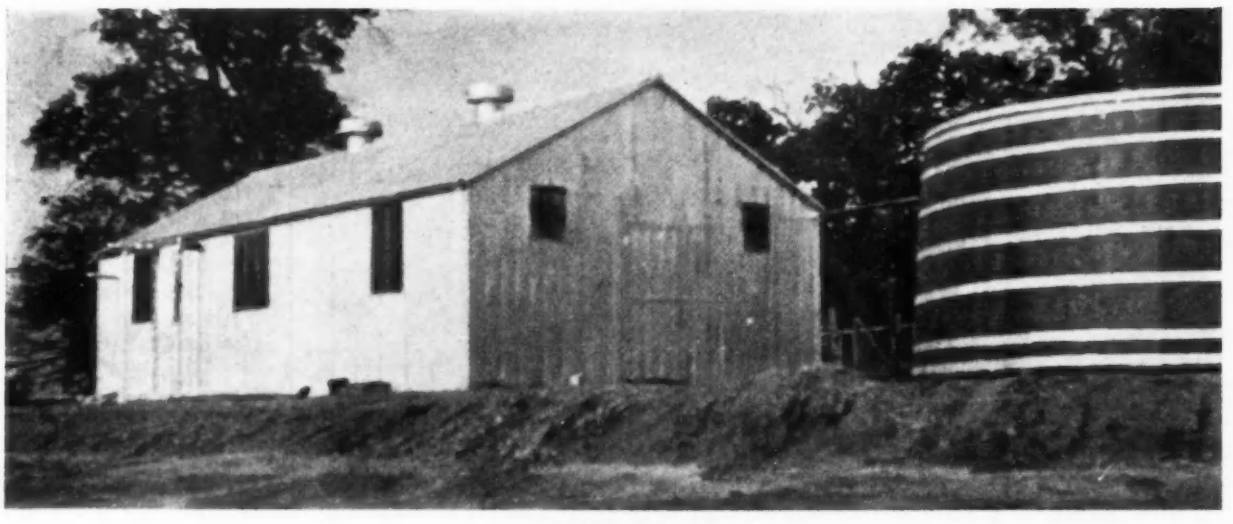

FIGURE 2
Compressor plant on Humphrey Spear lease, Kilgore area of East Texas

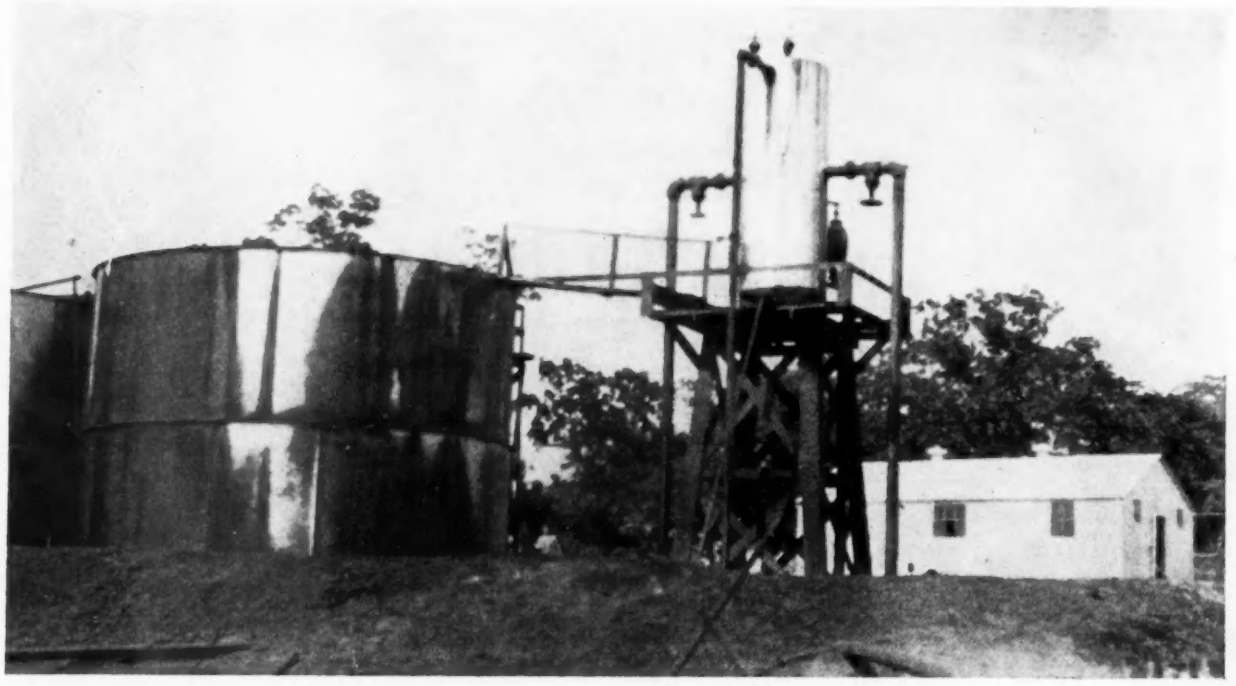

FIGURE 3
Separator into which all wells on the Spear lease are discharged.

gas will come out of solution and, therefore, the gas dissolved in the oil must issue with the oil. Under this pressure of 750 pounds the oil contains in a dissolved state approximately 370 cubic feet of gas, which is capable of doing considerable work in lifting oil if it be utilized to best advantage. A general average of the approximate quantity of compressed gas required to lift a barrel of East Texas oil under different conditions of pressure is given in Table 1.

TABLE 1
Approximate Quantity of Gas Required to Lift One Barrels of East Texas Oil

Gauge pressure in pounds per sq. in. at bottom of tubing	Total cu. ft. of gas required to lift one barrel of oil[3]	Cu. Ft. of gas necessary to be added from compressors in addition to the gas dissolved in the oil[4]
1000	40	0
900	50	0
800	70	0
700	100	0
600	140	0
500	200	0
400	300	75
300	490	270
200	930	690
100	2650	2400

It will be observed on Table 1 that the difference between the figures in columns 2 and 3 do not amount to 370 cubic feet, which is the quantity of gas dissolved in the oil at 750 pounds. This is because the gas that would be compressed in the compressor plant and admitted to the well would not be of the same character as that dissolved in the oil.

The quantity of gas required to lift a barrel of oil, as indicated in Table 1, is not at all high, and when considering the gas dissolved in the oil and already available for lifting purposes, the additional quantity of gas required to lift the oil makes necessary only a small compressor plant for handling the production, especially as long as pressures remain high.

Assuming that the compressor installed on the Humphrey lease is capable of actually furnishing 450,000 cubic feet per day under the most exacting conditions, it would have a capacity for lifting about 650 barrels per day at pressure of 200 pounds, provided no water encroachment had taken place in the meantime.

It would appear from Table 1 that there is sufficient gas in the oil to lift the oil until pressures have declined to some point between 400 and 500 pounds, but this assumes that the wells would not be shut-in every day and that the diameter of the tubing be of the proper size for the quantity of oil that is to be lifted.

It has been observed that wells in the East Texas field cannot be depended upon to automatically start the flow and to continue flowing their production after pressures have declined to between 800 and 900 pounds, even though, theoretically, there is sufficient gas present to lift the oil under ideal conditions until pressures have declined to 400-500 pounds. This being the case, it would seem that where the most important function of artificial lifting equipment for a considerable time to come is merely that of starting the wells to flowing, or perhaps, to add a small amount of gas to make up for any deficiency. The type of equipment employed in the Humphrey Spear wells answers this purpose in a satisfactory manner and at a low cost for installation. Moreover, this method can later be adapted easily to the handling of production under the most severe lifting conditions.

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[1] S. F. Shaw, "Application of Air and Gas Lift to East Texas," Oil Weekly, July 17, 1933, p. 59.
[2] Ben E. Lindsly, "A Study of Bottom-Hole Samples of East Texas Crude Oil." Paper read before American Petroleum Institute, Tulsa, May 18, 1933.
[3] S. F. Shaw, "When Will East Texas Wells Stop Flowing," Oil Weekly, December 19, 1932.
[4] S. F. Shaw, "Flowing Methods in the East Texas Field." Petroleum Engineer, October, 1933, p. 32.

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Latest Type *Methods and Equipment Used On Kettleman Hills* Drilling Rigs

BRAD MILLS
Staff Representative

BY combining latest equipment and methods developed in the Mid-Continent and California fields, Drilling and Exploration Company has done much to standardize drilling at Kettleman Hills. This company, originally organized to drill as contractors in foreign fields, recently started operations on the North Dome. A study of field conditions was made before submitting a bid for drilling a well.

In attacking drilling problems at Kettleman Hills, the company sought to assemble balanced equipment at each well, so far as could be determined from experience of North Dome operators. Speed and time records were not the goal, but as a drilling contractor entering a new field, every effort was made to assemble equipment that would do its work effectively and rapidly.

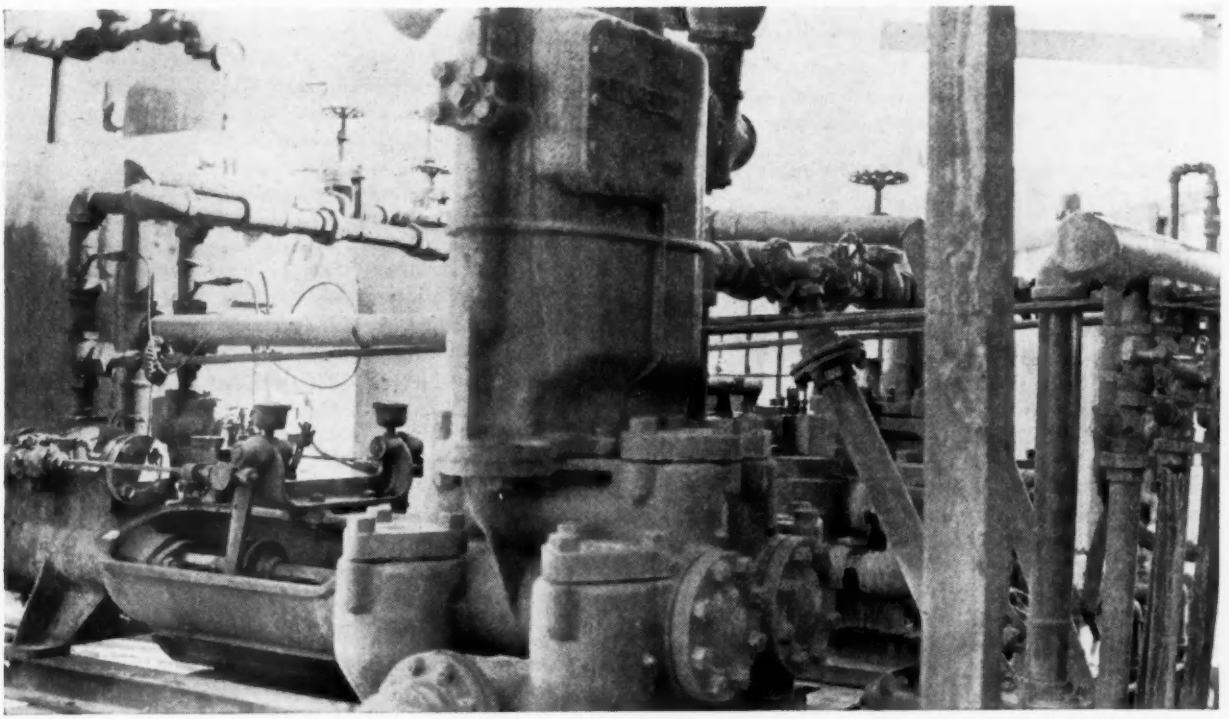
A combination of California and Mid-Continent methods and equipment has proved that Kettleman Hills may be developed in a normal manner. First drilling was accompanied by a strong mental hazard and some fear, but proper equipment and drilling technique have changed the picture.

A standard 136-foot steel derrick is being used by Drilling and Exploration Company. This type has proved most suitable for type of equipment used, and is considered high and strong enough for the North Dome.

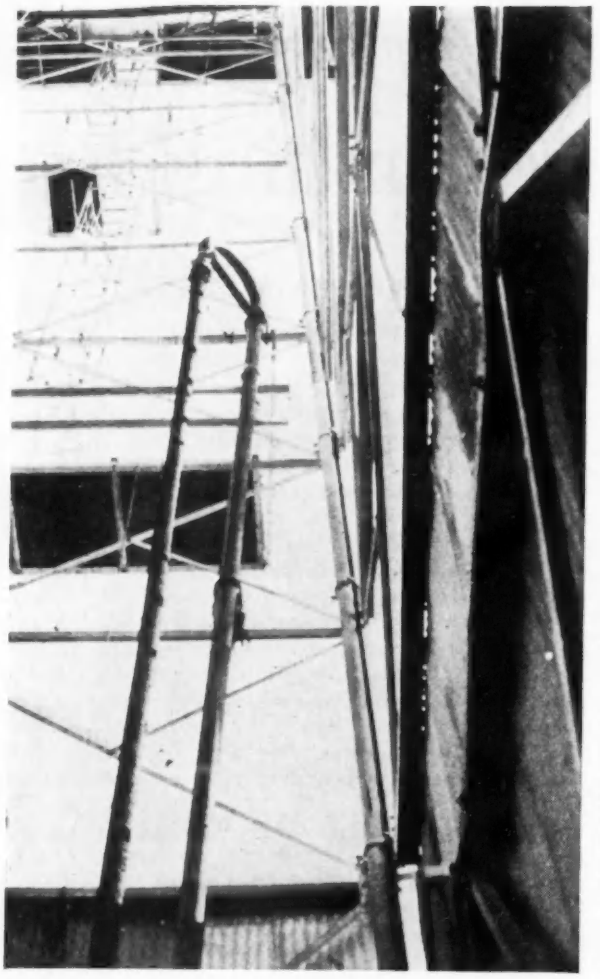
Two cylinder, 12 x 12 vertical steam engines are being used exclusively. They have proved effective prime movers, and are being operated with a steam pressure of 350 pounds or 250 pounds, depending upon conditions. These engines develop more than 700 horsepower at 300 revolutions per minute, and will do even better with a steam pressure of 350 pounds. Special foundations are provided, and all engine vibration is absorbed by the ground.

The company is now drilling three wells on the North Dome, and different boiler pressures are being maintained. The first well was drilled and completed with four boilers, operating at a steam pressure of 350 pounds, and such a pressure is still being used, but it may be possible to drill wells almost as effectively with a boiler pressure of 250 pounds. The one well now being drilled with a 250-pound boiler pressure is making good time, and such a reduction in steam pressure may lead to more extensive use of the lower rating.

A study of boiler pressures was made, and several advantages of handling 250-pound steam over 350-pound steam developed. Safety factors alone were important. Where the drilling engine has a good margin of power, 250-pound steam may replace the higher steam pressure,



Boiler feed water heater mounted on pick-up pump. This is the first heater of this type ever used.



Special gooseneck used in mud line to reduce pump pressure.

experience has shown. Boilers used at each location include a battery of four, operating at a steam pressure of either 250 pounds or 350 pounds. Each boiler horsepower is normally rated at 125.

Two 15 x 7¾ x 20 slush pumps are used at each drilling well. Ample mud circulation has been a factor in rapid drilling operations. These pumps are among the first of this size to be used in California.

The boiler feed pumps are also the first of their type to be used in California. The installation at each well includes two 10 x 4½ x 10 duplex pumps.

The boiler feed pump and feed water heater arrangement at Kettleman North Dome Association's No. 87-28J, which is being drilled under contract by Drilling and Exploration Company, is the first of its kind ever used in any field. It consists of a 10 x 4½ x 10 duplex pump that picks up the water, a new type water heater, and a second 10 x 4½ x 10 duplex pump for sending the heated water to the boilers. The vertical type heater is mounted on the first pump, the exhaust steam from the drilling engine being sent into it to heat the water while it is in motion. The steam is condensed and again becomes boiler feed water. This arrangement has effected a distinct saving in water.

The boiler feed water pump units are mounted on a welded frame of pipe, with manifolding and connections permanently installed. Each battery of pumps uses two six-inch, three four-inch, two three-inch, and three two-inch, 5000-pound stop cocks. The pumps are also welded onto this frame.

The traveling equipment is heavy, but has been balanced to meet field conditions. An 80-inch, 46-inch sheave traveling block capable of carrying more than 300 tons, a 300-ton hook and a 150-ton swivel are being used on No. 87-28J.

The draw works has a nine-inch drum shaft and eight-inch line shaft, and drives a 27-inch oil bath rotary table. A rotating hydraulic brake is used on the draw works and has reduced wear and tear of equipment.

A feature of each drilling outfit operated by the company is the automatic hydraulic feed control, which consists essentially of a small hydraulic pump and reduction gear. In drilling Kettleman North Dome Association's No. 87-28J, the brake was not used between 2500 feet and 7300 feet. This automatic control feed-off is based on weight carried and other factors.

A small tank of lubricating oil is kept under air pressure for use in spraying the rotary chain and other equipment in motion and difficult to reach by hand. This tank, which is made from a short section of casing, is partially filled with oil and given a pressure by a bicycle pump. A floorman sprays the rotary chain hourly by using an attached nozzle.

Full hole tool joints are used to reduce pump pressure. At a depth of 7300 feet in No. 87-28J, pump pressure was only 650 pounds with 20-inch pumps running at 50 strokes per minute and with five-inch drill pipe.

All possible angles in the mud manifold have been eliminated to reduce friction. A special gooseneck has been designed for use on the mud line in the derrick, while 5000-pound stop cocks are standard equipment.

One 250-barrel steel mud tank is used at each location to give a flooded suction, or head, to the pumps. This is a California practice that has not been used extensively in the Mid-Continent. An extra 500-barrel mud tank is also used, since Kettleman Hills holes make little or no mud.

Six-inch drill pipe is used to the brown shale, with 5 9/16-inch string being used from this point to the seat for the 9⅝-inch casing. Four-inch drill pipe is used in drilling below the main 9⅝-inch water shut-off.

A 24-inch hole is started. Speed of rotation while drilling this portion of the hole is 90 to 100 revolutions per minute. The hole is then reduced to 14¾ inches and speed of rotation increased to 125-150 revolutions per minute. After reducing the hole to 12¼ inches and entering the very hard formations, speed of rotation is reduced to 60-85 revolutions per minute. After cementing the 9⅝-inch casing, an 8½-inch hole is made through the oil sand.

A steam stand-by unit is furnished by the oil company, and does not belong to the contractor.

In drilling and completing Kettleman North Dome Association's No. 72-2P, Drilling and Exploration Company established a time record for the Felix, or north flank, district on the North Dome. The well was completed in 120 days, of which about 90 days were used for making hole. This is not a record for the field, however, as the northwest flank is easier drilled than the north dip, and consequently holds the speed record for the North Dome.

J. E. Brantly is president of Drilling and Exploration Company and supervises all drilling operations.

Drilling equipment listed and described is in use on Kettleman North Dome Association's No. 87-28J, but equipment used by the company in drilling wells under contract for Standard Oil Company of California differs little from that described.

Deep Well Pumping

[More than 200 deep wells are being pumped economically and efficiently in California]

E. P. TROUT

California District Manager,
Lufkin Foundry & Machine Company

TO those faced for the first time with problems connected with the various means of lifting oil from extreme depths, that is 6000 feet and below, it is a surprising fact that extremely deep wells are generally easier to pump than to overcome some common conditions in comparatively shallow wells. With proper analysis of well conditions, deep wells can be pumped economically and efficiently. This fundamental fact is thoroughly established by experiences with the pumping of over 200 in California from a depth exceeding 7000 feet.

We shall discuss herein only the phase of pumping by means of the walking beam, or standard pumping practice. Let us first consider the possible rod loads on deep wells and some of their characteristics. For a means of identification, the total rod load will be termed as the "dead load," and the total fluid load or hydrostatic load on the pump as the "live load."

The work to be done includes lifting the oil to the surface at a rate of speed which is determined by the amount of oil that will flow to the well, and the capacity of the pump equal to this amount. The capacity of the pump is determined by the area of the plunger, the length of effective stroke and number of strokes per minute, the density of the fluid, the losses due to valve openings, closings, frictional resistance through valves in the passageway, and the leakage past the plunger.

As the oil is lifted in a series of repeated upward efforts on the part of the plunger, each time the plunger starts downward the upward flow of fluid stops, and the weight of the oil is shifted from the plunger to the tubing, and due to the shifting of loads there is an actual downward movement of the oil in the tubing caused by the oil load stretching and increasing the length of the tubing. Since the oil in the tubing does come to a rest during each downward stroke it follows, it must be started upward again by the plunger on each succeeding upward stroke; the plunger must therefore not only lift the weight of the oil but also accelerate the weight upwardly, and in addition, overcome the fractional resistance offered by the tubing wall to the passage of the oil. Therefore, it is apparent there are loads other than the weight of the oil that the plunger must overcome to raise the oil to the surface. In addition to these loads of oil weight, acceleration, and tubing friction, there are frictional losses due to plunger packing and rubbing of sucker rods along the tubing walls, all of which must be borne by the plunger, sucker rods and lifting mechanism.

In the past, sucker rods were all made of a given diameter from the top of the hole to the bottom, but recently many operators have been using rods made of different diameters, the larger sections being installed at the surface end of the rod string; the object being to overcome the stretch in rods due to the weight of the rods themselves. After these rods are hung in the well, there is a change in their length due to the weight, and there is a correspondingly additional change in length due to the weight of the oil and the acceleration of the oil. This is best explained by visualizing these rods as sensitively suspended like a spring and extremely responsive to any load changes that may be placed on them; in fact, without a plunger attached to them, if the crank is started upward suddenly, there would be an interval of time intervening between the starting movement of the upper and lower ends of the rods, and at the upper end of the rods—the reversal, the rods at the top would be going downwardly while the rods at the bottom would momentarily be stationary. At the end of the downward stroke after reversal, the upper rods would have started upward while the lower ones would be still descending. All these movements can be seen in action by hanging a weight on the end of a small rubber band held in the hand. To this varied and erratic movement of the rods can be attributed most of the trouble encountered in pumping deep wells and the difficulty in obtaining practical volume results, which theoretical computations should warrant. From the above it is apparent that the rods

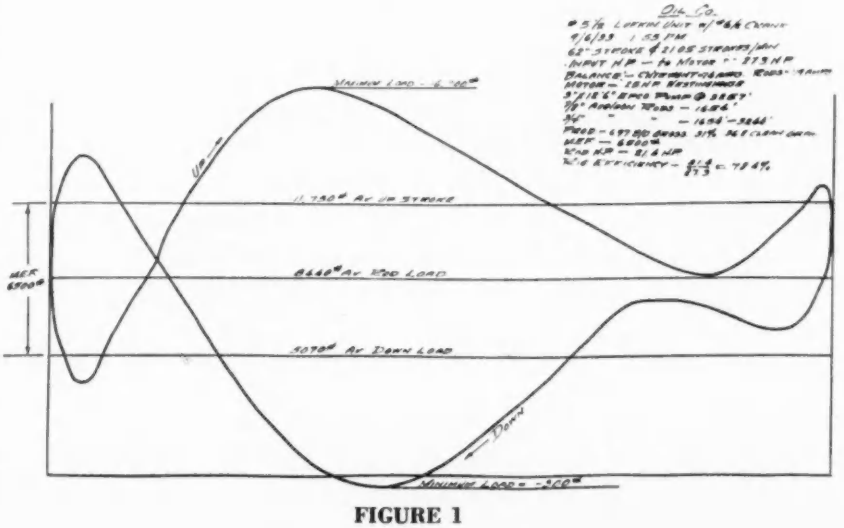


FIGURE 1

selected should be designed to give the most movement when acted on by their own weight, secondly, a reasonable long stroke should be used, thirdly, the smallest diameter of plunger consistent with the production desired and, lastly, the plunger speed should be held at a rate equal to the maximum travel which the oil will follow the plunger through the standing-valve passageway.

Summing up the above, it is known that the greater the bore, the greater the area of plunger exposed to the fluid column pressure, and therefore the greater the fluid load, which in turns means, the greater the stretch, or in terms of net plunger movement means less plunger travel. In deep well pumping it is essential that the plunger travel be as nearly as possible the same as that of the polish rod, and to this end a crank speed variation of 16 to 24 strokes per minute is generally accepted for the most desirable speed where the polish rod stroke varies from 52 inches to 72 inches.

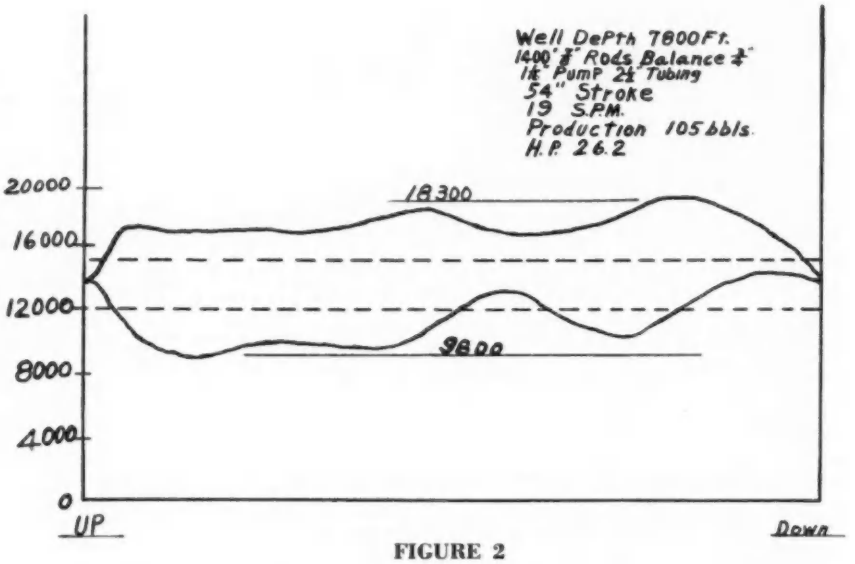


FIGURE 2

In determining the proper speed, stroke length, etc., it is essential that each well be studied as an individual problem and only by experimenting with different stroke lengths and speeds can the maximum production be obtained from a given pump diameter. Let us for a moment consider the types of pumps, without going into detail we might sum up the experiences of a few California operators who have pumped wells from below 7000 feet successfully. Where the oil to be handled is fairly heavy gravity, containing reasonable lubricating qualities, and does not contain excessive sand or other undesirable elements, the insert liner pump is most commonly used. When the gravity of the oil is very light, and the lubricating qualities poor, and with sand and other abrasives present, a standard liner pump with slightly greater clearance between plunger and liner is used generally. With two-inch tubing the bores are usually 1 1/16 inches and 1¼ inches, and with 2¼-inch tubing the bores are generally 1½ inches and 1¾ inches. Where the fluid levels are generally low, the relative hydrostatic pressure in the pump is high, usually a 1 1/16-inch pump is recommended.

With regard to the selection of rods, combination strings generally are used; the upper portion of approximately 1500 to 3000 feet usually are seven eighths-inch and the balance three quarter-inch, depending, of course, upon hydrostatic load or the live load to be handled.

Table No. 1 is one rod manufacturer's recommendation for a combination rod string.

TABLE 1

Percentage of ⅞-inch Rods in ¾-inch and ⅞-inch Combination Strings in Relation to Pump Bore.

Bore—Inches	Percent
1 1/16	25
1¼	27
1½	30
1¾	34
2	38
2¼	42
2½	47
2¾	52*
3¾	80*

*In the case of three-inch and four-inch pumps—100 percent seven eighths string is always recommended.

It is usually found that those wells in which a high maximum load is experienced, a low minimum may be expected. The dynamometer card in Figure 1 is a good illustration, the maximum load being 16,700 pounds, and a minimum load a minus 300 pounds, making a total load range of 17,000 pounds. In this case the total load range exceeds the maximum peak load, which is very undesirable for any combination string of rods and not recommended by any rod manufacturer. The dead load, or rod load, of 6467 pounds, is approximately three fourths of the accelerated fluid load of 10,233 pounds. Contrast this with Figure 2, a 7800-foot well, an ideal curve in which the minimum load of 9800 pounds and a maximum of 18,200 pounds represents a load range of 8400 pounds, or less than 50 percent of Figure 1, a 3300-foot well. The dead load in the deep well is 13,360 pounds and is taken care of by the counterbalance, the effect of which on well loads shall be discussed later, and the

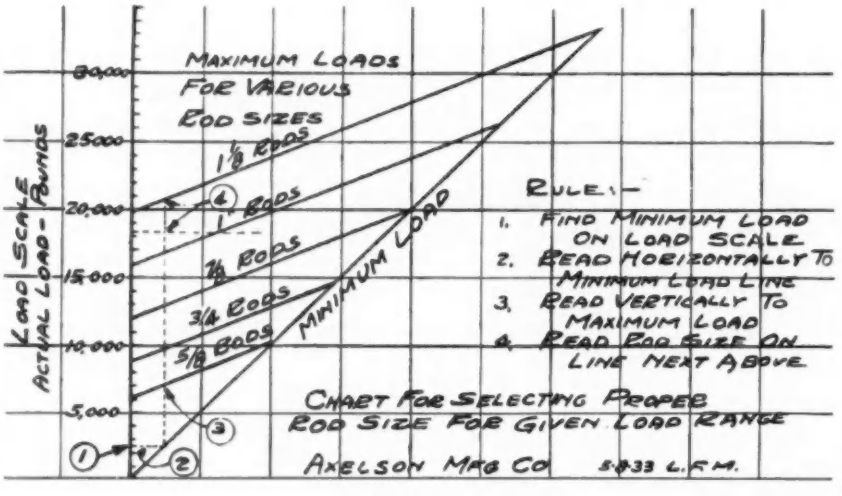


TABLE 2

live load of 4840 pounds represents approximately 25 percent of the total load.

Table 2 is one manufacturer's chart for rod size selections based on load ranges.

Figure 3, a 3400-foot well, represents a better operating condition than that of Figure 1. Although the pump depth is approximately the same, the stroke is longer and the speed slightly less, the production of 1240 barrels is almost double that of the first well under consideration. It is not the writer's intention to discuss in detail the characteristics of each curve. Figure 3 is presented merely to show better operating conditions for similar type wells.

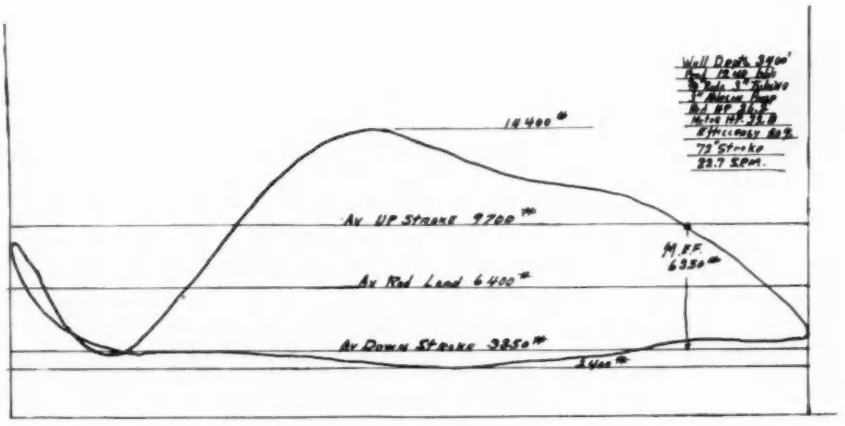


FIGURE 3

Figure 4 illustrates another serious condition in shallow wells in which the plunger of the pump is hitting fluid very badly near the bottom of the downward stroke. Even though this condition could be remedied with a smaller pump or by slowing down the well, it is pointed out that similar conditions exist in many comparatively shallow wells, which is a more severe test for rod fatigue than is generally found in properly conditioned exceptionally deep wells.

TABLE 3

Pump Bore, inches	1 1/16	2¼
Pump Depth, inches	6,780	3,315
Gravity of Oil	42	27
Percentage of Water	27	58
Surface Stroke, inches	54	34
Fluid Load, pounds	1,140	4,870
Rod Load, pounds	10,800	5,280
Total Load, pounds	11,940	10,150

Table 3 represents a practical comparison for study. It is pointed out that although the total loads in both cases are very nearly equal, the active or "live load" in the first example is 9.55 percent of the total load; yet in the second case it represents 43.56 percent. From the fatigue characteristics of steel, it is perfectly obvious that whereas the range of loading in the deep well is easily within safe working limits, yet in the shallower well, when we ordinarily would assume the load to be less, we find the fatigue condition to be very dangerous and, in fact, that is typical of wells in which rod trouble is a serious problem.

Considerable technical data has been compiled by a few major oil company engineers of rod stretch characteristics, rod fatigue, and plunger travel compared to polish rod travel, but no authentic information is available for a standard as each well presents an individual problem. The crookedness of the hole, gas and sand conditions, plunger fitness, etc., make any formula or table somewhat emperical and only by actual test on each individual well can these characteristics be determined.

It is difficult to interpret the technical data of the two accepted test instruments used for this purpose without indulging in technical terms and phrases, so presented here is a rough or simplified comparison of the effects of load range on an electric motor of a shallow well with that of a comparatively deep one. For example, conditions as in Table 3 can be exemplified by a watt-hour meter diagram roughly sketched in Figures 5 and 6.

A simple analysis indicates the wide load range even in a perfectly counterbalanced well in Figure 6, as compared to less load range and smoother operation in the deep well. This is the basis of the opening remark that extremely deep wells are generally easier to pump than some common conditions in comparatively shallow wells.

This brings us to the point of properly counterbalancing the long string of rods in deep wells and the proper selection of surface equipment to insure the most economical means of actuating the rods. In counterbalancing a well it is accepted practice to have the effective static weight of the crank counterbalance equal to the weight of the rods plus one half the weight of the fluid. For our study we shall consider the crank-type counterbalance only.

There are several types of crank balances being used successfully on deep wells; some with long crank arms and a small amount of auxiliary weight attached to the end, others where the weights are concentrated nearer the crank pin, requiring more weight. The force diagram in Figures 7 and 8 clearly represent the bearing pressure of two types of cranks. The best motion is obtained usually when the radius of gyration of the mass equals the radius of the crank pin. It is not, however, always possible to obtain these desired results in balancing deep wells as it is impractical to apply the desired weight at the radius of the crank pin.

The problem of balancing deep wells

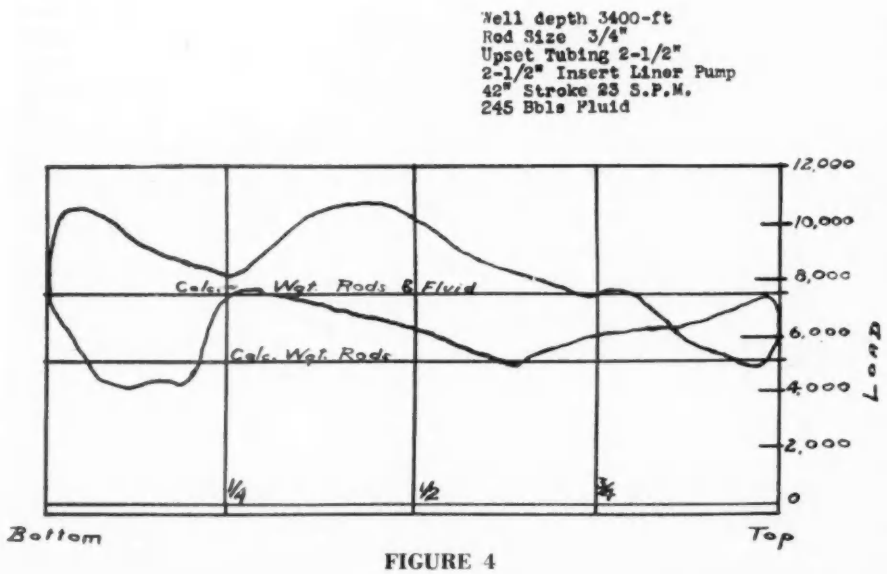


FIGURE 4

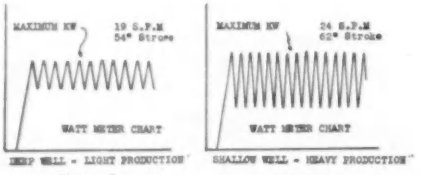


FIGURE 5 FIGURE 6

is actually an easy one. The dead load is usually a large percentage of the total load and is taken care of by the counterbalance crank, and when the live load is relatively small it is very easy to determine approximately half this load to get the desired balance.

The crank is actuated by means of a prime mover through a reduction gear unit or a standard bandwheel belt drive. A well designed reduction gear pumping unit has enclosed bearings, consequently low lubrication expense and clutch maintenance. There are several makes and types of reduction gear units in successful operation, some of which have operated continuously without any maintenance cost other than lubrication for the past 11 years. The general gear ratio of 10 to 1 is ideal for single-cylinder gas-engine drives as the belt ratio is approximately one to one, whereas, in double-geared units it is necessary to increase the pinion speed to obtain the desired crank speed.

It is not our intention to discuss the different types of units available, or defend any type of unit, bearing, gears or general make-up. It is, however, essential that in deep well pumping a unit should be selected that is designed especially for oil well service, that will withstand the pulsating and shock loads of oil well pumping.

Reduction gear units should be rated on a time and wear basis. With the horsepower based on a life of 20 years of continuous service at rated capacity, obviously a longer life can be expected at under-rated capacity loads. Some pumping unit manufacturers have made considerable headway in this respect, basing their horsepower ratings on a tooth-pressure load, the allowable tooth pressure derived from noting the wear based on several years' continuous operation. The ratings should be based upon an average load with sufficient factor of safety to take care of the peak load, which is generally figured 1.75 times the average load. Maximum wear occurs on the few gear teeth that take the peak loads or accelerating loads of the rods and fluid, and since the peak occurs for such a short duration, the few gear teeth on the gear wheel taking this load are subject to the maximum wear, for the gear wheel is made of a softer material than the pinion. It is not practical to rotate the gear wheel in relation to the crank as soon as wear occurs on the teeth that take the peak loads, for this wear would cause back-lash in the gears, and the shock or pound of such back-lash would be transmitted to the rods. A horsepower rating based upon tooth pressure, per inch of face per inch of diameter for a given life, would insure the user the expectant life of the gears, and obviously if he desires only a few years service he could make his selection accordingly. At high ratings for short life of gears, the unit would have to be protected with shaft and bearing sizes suitable for high torque and bearing loads during this period.

One important feature, which is not fully appreciated by many producers, is the proper lubrication of geared units, a feature one would think would be given greatest consideration and proper study, for all marketing oil companies maintain large lubrication engineering staffs to meet any type of lubrication problem. Yet it is common practice for the producing departments to order their cheapest oils to meet the manufacturers' general specifications. The best possible lubricating oil for precision gears is unquestionably the most economical oil, for the added few cents per gallon is negligible compared to the added life and performance of the gears. Of a given manufacturers' S.A.E. rating it is recommended that the best dewaxed oil of the lowest carbon residue that will withstand the highest pressure, be used.

The types of prime movers will not be discussed, for their selection depends upon too many factors for a general study. The location of the well, the type of service which is required, the cost of electric power, the amount of gas available, and other items are a few factors that determine their selection. It is well, however, to state that the drive from the prime mover to the reduction gear unit should unquestionably be a V-belt drive, as it is a shock absorber of the impact loads from the unit to the prime mover. This type of drive, if properly designed with suitable belts for the load, is highly efficient and adds an extended life to both the geared unit and prime mover from its shock absorbing qualities.

From the above the producer can appreciate the necessity of proper selection of pumping equipment. His profits lie in the continuity of his production, and returns from his production against charges of interest on initial investment, operating expense, maintenance cost and replacement cost.

It is fundamentally true that the larger the investment in initial cost of equipment, the lower will be the other three phases of costs. In case of extremely deep wells, this fact is more sharply emphasized than in the average case. That these costs increase rapidly with depth is well known. It is, therefore, the exercising of excellent judgment to operate the best type of equipment that can be purchased—if the hole is to pay out in profitable amounts as a deep pumper.

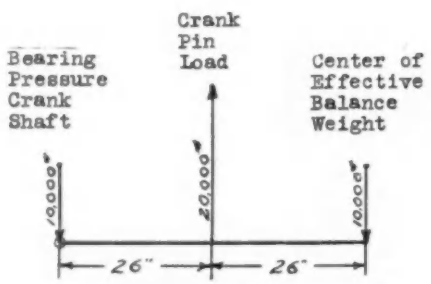


FIGURE 7

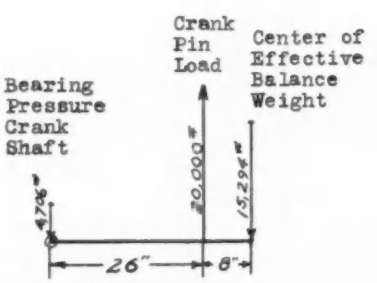


FIGURE 8

Big Lake, looking east down the concrete highway which runs through the field.

Big Lake Oil Company *Has Efficient* Treating Plant

J. C. ALBRIGHT

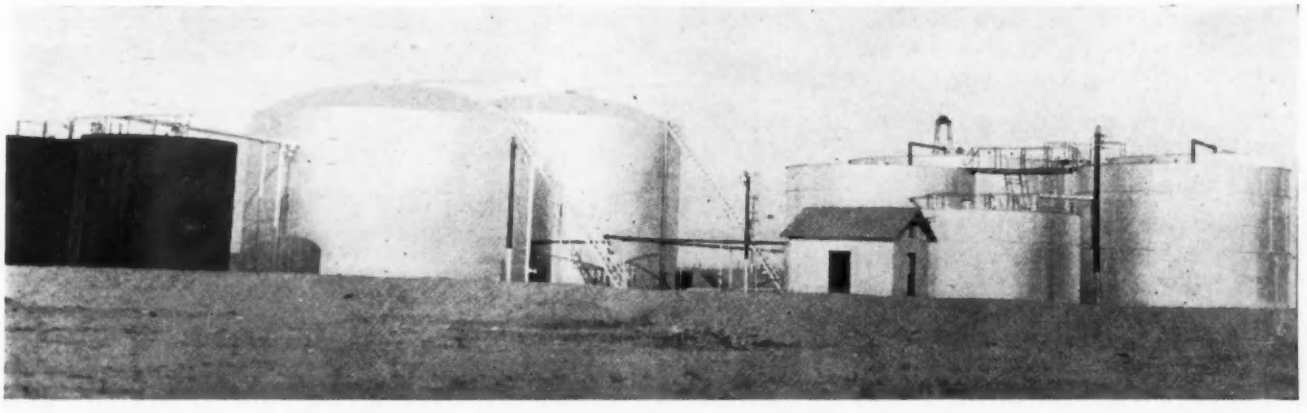
BIG LAKE OIL COMPANY has been treating an average of 10,000 barrels of crude oil daily at Texon, Texas, for the removal of b.s. and water since proration rules governing the production of oil in West Texas were placed in effect. The oil treated is a composite mixture of the crude pumped from the 3000-foot shallow pay zone and the heavy production flowing from the deeper saturated portions of the Ordovician, or Ellenberger lime. The shallow oil, discovered in 1923, contains considerable compounds corrosive to steel tanks. Water is also produced with this oil in large quantities, but the deep zone, around 8500 feet, has not shown any alarming indications of serious water encroachment. Some of the extreme edge wells that define the deep structure on the southeast are making water, but the oil is not cut as severely as that being lifted from the shallow wells.

To simplify the routine of treating the oil produced from the field, the deep and shallow oils are blended together and treated as one in a central plant. The physical equipment employed in this centralized treating plant is not too elaborate, but it contains the essentials for reducing the b.s. and water to an average of one half to one percent.

Two units were constructed to process the amount of oil that the field could produce, but since the output is limited to the allowable placed on the wells, it is not necessary to operate but one of them. The unit used is the first built for that purpose; the second plant being permitted to remain idle rather than operate the two alternately.

Two 10,000-barrel vapor-proof steel tanks were erected in the construction of this plant. Two 2000-barrel wooden tanks were set in the line of travel of the oil in which it is received alternately as the process is being carried on so that the finished oil may be easily pumped away from the plant after being treated. Steam is used for heating the oil as it is being treated, and three oil field type boilers were erected to supply the necessary quantity.

Practically all the free water flowing from the wells to the lease batteries is separated in gun barrels and by draining the flow tanks before the gauger places them on the gathering line pumps. The water is disposed of through



Big Lake Oil Company's treating plant at Texon, Texas, which treats production from the Big Lake field.

a system of canals leading to an atmospheric evaporation basin far enough from the field that seepage from it will not contaminate the fresh water supply used in production boilers, the natural gasoline recovery plant and camp consumption. As soon as the lease batteries became filled and the water drained from them, the oil is taken through the gathering system by a central pump station that places the oil in storage before it is moved to the treating plant. The system of holding the oil in large storage for a short time before treating is for the purpose of enabling more of the free water to be separated from the oil before being treated.

The central pump station that gathers the oil from the various lease batteries is also equipped with the necessary pumping equipment to transfer the oil to and from the treating plant. When one of the large tanks is placed on pump suction for transmission of the oil to the treating plant, that oil contains an average of from eight to 10 percent b.s. and water. It is directed to the first of the two 10,000-barrel tanks and enters the shell through a flanged connection near the upper rim of the top ring. A line on the opposite side of this flange directs the oil downward and distributes it evenly over the floor of the tank through a series of perforated two-inch lines. Sufficient water is carried in this tank to bring the average level to about three feet, through which the oil rises in more or less finely divided streams.

Steam is admitted to the tank through an insulated line entering the shell at approximately the same height as the oil line, and it is also distributed over the floor of the tank in intimate contact with the water and the rising streams of oil. It has been found that the oil produced in this field breaks out quite easily at a temperature of 105° F. and the body of water through which the oil rises is maintained at that temperature by the treating plant operator. Three different and distinct layers are observed in the treating tank at all times; the body of water in the base, a thin layer of frothy scum resting upon it and the main body of oil above. The three layers are also at different temperatures; the water at 105° F., the scum at 100° F. and the oil having a temperature of 93° F.

The flow of the partially treated oil from this tank to the second, and through the system to the wood receiving tanks, is by gravity. To facilitate the travel from the first to the second, the first 10,000-barrel tank was erected on a higher grade so that the oil will flow straight across before the first tank becomes filled. It is evenly distributed over the floor of the second tank in the same manner as that utilized in the first, but steam is omitted while the oil is rising through the second tank. The temperature of the oil while passing through the second tank in the treating system has an average temperature of 85° F.

Each of the two 10,000-barrel tanks is equipped with vapor lines through which the light gas coming from the oil is removed. This gas is directed to the gathering lines of the gasoline plant. The tanks are also equipped with adequate safety valves that prevent the accumulation of pressure and relieve the tanks of vacuum that is applied to the gathering lines by the compressors handling the gas.

The finished oil flows from the second steel tank to either of the 2000-barrel wood tanks. Manual selection is made in changing at this point, and when one of them becomes filled, the field gauger runs a test for b.s. and water and turns it into the line leading back to the tank farm.

Through this method of treating this particular oil, b.s. and water is reduced to an average of one half of one percent.

PROVE POLISHED RODS

the way you do a Lease

Look at these two polished rods used under identical conditions. One (after 90 days' use) is dotted with dry holes! The other makes a good show after five years' service. It is Monel Metal.

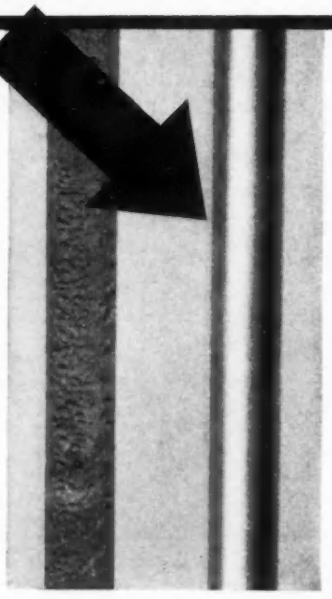
That's a 20 to 1 advantage in favor of Monel Metal over the best performance made by steel rods on the same lease.

Examination of rods that have been in continuous use for over six years shows every one in excellent condition. They may occasionally develop slight wear where they've rubbed against the side of the steel stuffing box, but the surface is *smooth*. They just don't pit, and they don't destroy their packing glands. This is a show of value that suggests a little wildcatting on the subject.

Write or telegraph for complete facts and prices.

• • •

THE INTERNATIONAL NICKEL CO., INC.
67 WALL STREET NEW YORK, N. Y.

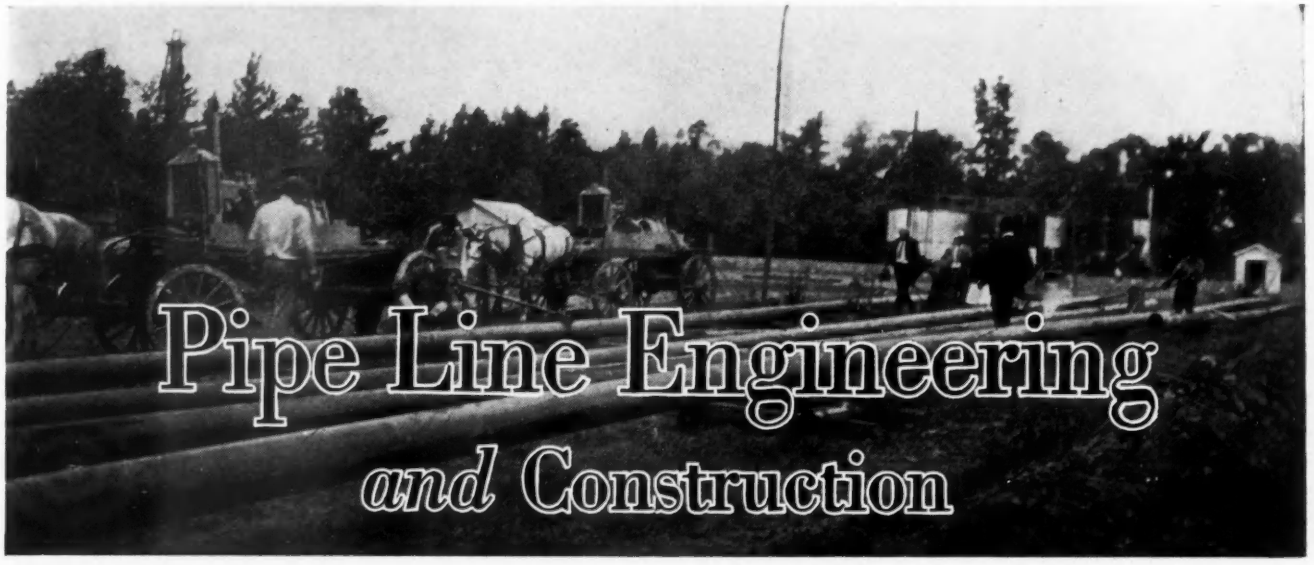


Left: *Steel polished rod after 90 days in a corrosive well.*

Right: *Monel Metal polished rod, same lease, after five years' identical service.*

Monel Metal

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.



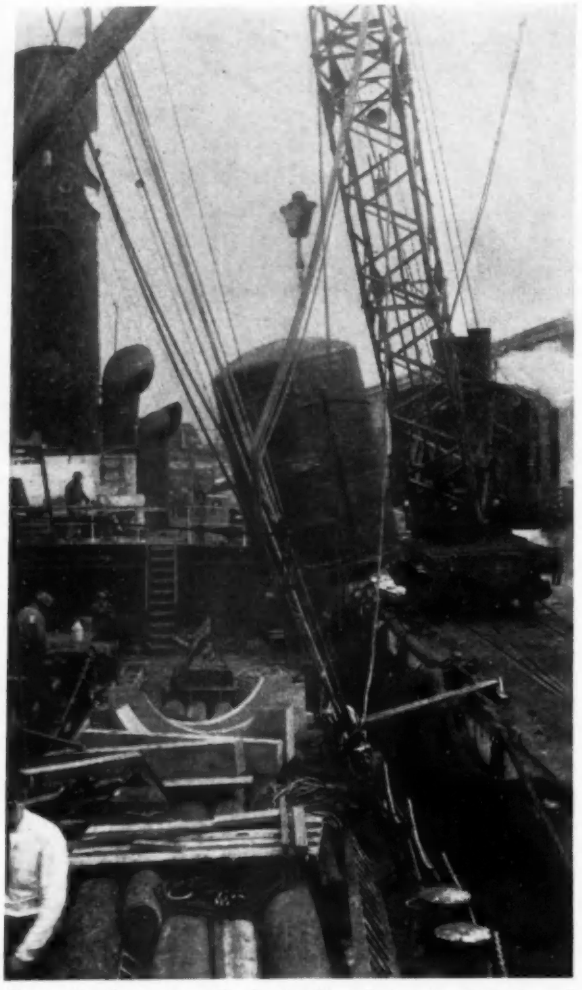
Submarine Pipe Line *Being Laid in Bahrein Is* Three Miles Long

THE abundance of oil being produced in the Western hemisphere has dominated the petroleum industry so completely that few in the United States have followed closely some important developments taking place in the Eastern world. The great populations of this sector of the earth offers a tremendous potential market for crude oil and its by-products and some important steps are being taken to develop the area as a consuming center and to establish ample supplies of petroleum at accessible locations. We are all familiar with the famous pipe line that will soon commence to transport oil from the Iraq fields, and now a pipe line is being constructed in the Bahrein Islands and oil from this country will be available for the consuming markets of the world late this summer.

A marine loading terminal is being constructed by Bahrein Petroleum Company, Ltd., a wholly owned subsidiary of Standard Oil Company of California, to make available for marketing the newly discovered oil on Bahrein Island, the largest of a group of islands that forms the independent state of Bahrein, located in the Persian Gulf.

Construction work of the marine loading terminal includes laying over three miles of 12-inch submarine pipe line from the small island of Sitrah out in the harbor, terminating in 50 feet of water; erecting three crude oil working tanks with floating roofs on Sitrah Island, with a capacity of 250,000 barrels, and a 7500-barrel tank for ship's ballast water; laying more than 10 miles of gathering lines from the producing area to the terminal; providing a pumping plant with a capacity of 5700 barrels of oil an hour, housed in a dust-proof building; installing four sets of radio telephones for communication between ship and shore, and a telephone line connecting with the pres-

Pier at Bahrein submarine terminal during early stage of construction. Flat slabs of rock pried up from the bottom of the gulf, loaded on dhows and brought to the pier. Sidewalls are laid by masons and loose rock dumped between. (Pictures courtesy Standard Oil Bulletin).



Buoy for hose at end of pipe line being loaded aboard the tanker El Sugundo.

ent line on Bahrein Island; and building a road to the terminal, including a fill or a trestle 1200 feet long and a draw-bridge across the channel between the two islands.

These loading facilities will be able to handle 10,000 barrels of oil daily, with provision for adding booster pumps to double that capacity if greater output is desired. The work will be completed late this summer. The first oil cargo is expected to arrive in San Francisco about September 1.

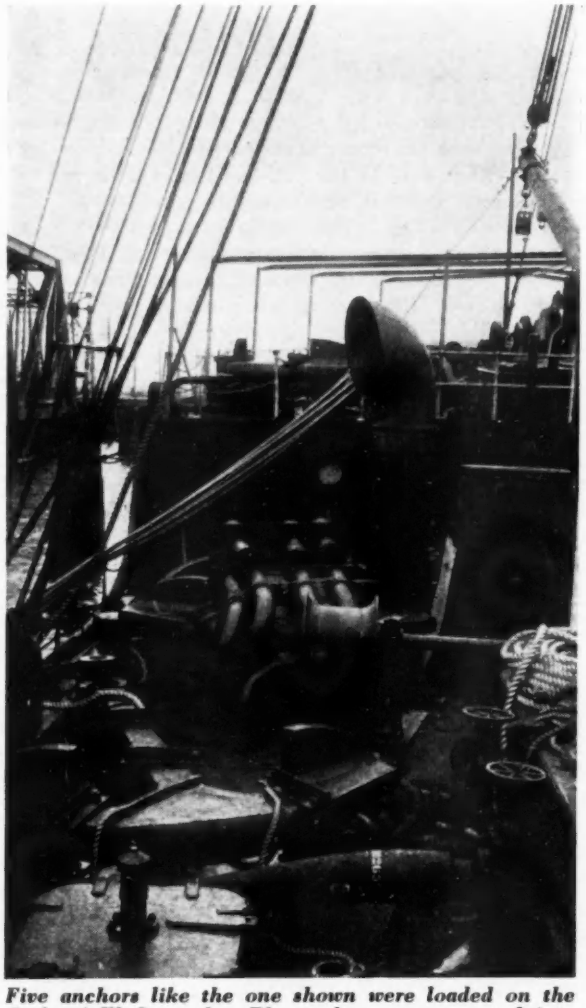
Native crews are engaged in grading for tanks, drainage ditches and roadway, and building the rock-fill approaches to the draw-bridge. Primitive methods rule—hoes and hands; baskets carried on the head of shoulder; donkeys for long hauls. In pier construction, flat slabs of rock are being pried up from the bottom of the shallow Persian Gulf, loaded on dhows and brought to shore. Masons lay the side walls, and loose rock is dumped between them. Sand and clay from the beach are used for the roadbed.

The age-old Arabian methods contrast sharply with the modern facilities—gasoline trucks, tractors and other mechanical equipment used by the white construction crews. Native labor will be used in laying the many miles of pipe for the gathering lines and the submarine terminal line, but the joints will be made by electric welding.

The sturdy steam tankship, El Segundo, long familiar on the Pacific Coast, is being used to aid in this engineering project. Few merchant ships have ever been outfitted as the El Segundo was; her case more nearly parallels that of a ship equipped for an Arctic expedition, for she will be far from sources of supplies. Fuel for the round trip, and everything necessary for the subsistence of 45 men aboard for a period of nine months, were taken at San Francisco, Pedro and Bombay. In addition, the craft was loaded with miles of pipe, sheet steel for tank construction, five eight-ton anchors, six marking buoys, three trucks, a trailer, two tractors, numerous air compressors, electric welding generators, a derrick and an unloading platform as well as innumerable other items of equipment.

Since tankers have no general cargo holds, openings were cut through the steel deck so heavy equipment and supplies could be stored in the cargo tanks. Cargo-booms were added to the ship's mast to assist in this work.

The vessel arrived at Bahrein on February 22, and is anchored 16,000 feet offshore. Here, more than three miles out, the shallow water ends, and it is across this reach of shallow bottom that the loading pipe line will go, its hose-fitted discharging end marked by a buoy. Radiating from this point the five huge anchors will be placed, their heavy chains attached to marking buoys. When a tanker arrives for loading she will make fast to these anchors and be held securely in position.



Five anchors like the one shown were loaded on the deck of El Sugundo. The tanker was converted into a cargo ship to carry materials for the terminal.

Cuban Field Produces Refined Naphtha Gasoline

LEO. J. REISLER

PERHAPS one of the greatest possibilities of all Cuban mineral wealth lies in the recovery of oil. At this time only a small effort is being made by Union Oil Company, about 18 miles east of the city of Havana, to recover crude oil. Small production is being taken from shallow wells, but they have proven beyond a doubt that crude oil is obtainable in Cuba in commercial quantities.

However, what has been considered the greatest mystery of all, and which now promises to be the greatest sensation, is the naphtha fields of Motembo Valley in the northwestern section of the Province of Santa Clara, where pure naturally-refined naptha gasoline is being taken from almost every well that has been drilled in this territory. This product is taken from the wells and sold direct to distributors for use as automotive fuel. The Cuban Army Corsair planes frequently stop at the fields to fill their tanks and continue their trip on to Havana.

History of Development

The history of Motembo reads like a fairy tale, and from present indications Cuba will soon be producing its own gasoline requirements, with a possibility that it might become one of the gasoline exporting countries.

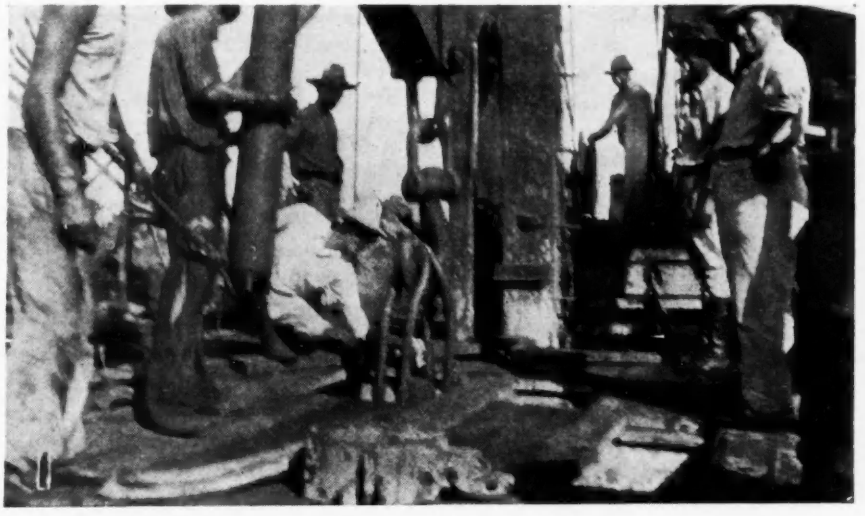
Motembo Valley has been explored from time to time for the past 50 years. Shallow wells were drilled during the 1880's by parties who were interested in discovering the cause of frequent explosions from the earth, where camp fires were made, and at this early date naphtha was discovered in quantities sufficient to market as a cleaning fluid, the product being taken from extremely shallow depths.

Since its first discovery, naphtha has been commercially used throughout the island of Cuba as the most effective cleaning fluid obtainable. It has been discovered that the naphtha will remove any stain from garments, except that of a sugar stain, which is readily removed with water, and in no instance does naphtha leave any kind of a stain or "ring" on the most delicate fabrics.

In 1930, Messrs. Arturo Macari and Abel del Rio became interested in the production of naphtha as an automotive fuel, and began the exploration of Motembo Valley in an intensive and serious manner, considering the crude drilling equipment that could be obtained on the island at that time. They acquired a tract known as the San Elias claim and drilled their first well thereon in 1933. This well was a big success, producing more than 25 barrels of pure naturally refined naphtha gasoline per day, and at the present time this well is yielding up to 8½ barrels per day.

All Producers

These pioneers have drilled many wells up to the present date, all producers. Recently (April 5, 1934) Charles Ginart brought in a well on the San Juan claim that has produced continuously an aver-



Bailing naphtha from Cuban well while drilling is in progress.

Rig used in drilling on the Island of Cuba where naphtha production was found.

age of 40 barrels per day, and when the price of $12.42 per barrel is considered, this production is highly profitable. A well producing from five to 10 drums per day is extremely profitable.

Large claims are being acquired constantly throughout the entire area of Motembo Valley, and in the past 12 months, leases covering several large tracts have been acquired by Cuban American Naphtha Company of Miami, Florida, and Atlantic Refining Company, which completely surround the present production area. Several smaller tracts have been leased to various individuals and small companies. Development companies now actively engaged in drilling and recovering naphtha from the Motembo Valley includes St. John Naphtha Company; The Cuban Naphtha Company; The Motembo Mining Company; Los Arobos Company and Hortt Company. Some of these companies have taken large production from small claims within the past 12 to 18 months.

As much as $100,000 worth of naphtha, it is reported, has been taken from a single well of less than 1000 feet in depth before the well became exhausted. The life of a naphtha well for satisfactory commercial production seems to be from 12 to 18 months, although a few wells in the Motembo area have been producing naphtha in commercial quantities for a much longer period.

The Motembo Valley field promises to rival the Baku, Russia, oil field, which was originally discovered as a naphtha field. Since crude oil has been discovered underlying the Baku field, it has become one of the greatest crude oil producing areas in the world. Since 1930 Russia has been second only to the United States in oil production. The great similarity of these two fields leads observers to believe that history will repeat itself here.

Geologists and engineers who have visited Motembo, estimate an unlimited quantity of pure, naturally refined naphtha gasoline underlies this area at a shallow depth, recoverable at a comparatively small expense. However, it is the intention of the developers of the Motembo field to drill for crude oil in certain sections of the property, thereby tapping the great reservoir that is believed to underlie the naphtha pool.

Saskatchewan's Wildcats

Eleven wildcats were active in the Province of Saskatchewan, Canada, June 23, with two of these showing gas.

Near Avalea, Pine Hill Petroleums Limited's well, Section 23-24-12, Meridian 2, was drilling at 2949 feet. Seventeen miles west of Wilcox, Black Foot Gas and Oil Company, Limited's well, located in Section 31-21-11, Meridian 2, was drilling at 715 feet. Twenty miles west of Maple Creek, Twin Provinces Gas and Oil Company, Limited's well, located in Section 21-29-11, Meridian 3, was drilling at 600 feet. At Lloydminster, Lloydminster Gas Company, Limited's well, located in Section 11-28-50, Meridian 3, was showing gas at 1973 feet. Altoba Gas Exploration Company, Limited's well, located in Section 22-27-27, Meridian 3, near the town of Lone Rock, was showing gas at 1708 feet. The McDonald No. 1, a well located near Bridgeford, in Section 4-3-23, Meridian 3, was drilling at 456 feet. Six miles south of Hudson Bay Junction, Trail Blazer Gas and Oil Company, Limited, Section 31-2-44, Meridian 2, was drilling at 292 feet. Mammoth Gas & Oil Company, Limited, No. 1, Section 23-7-23, Meridian 3, was a capped gas well at 696 feet; No. 2, in 12-6-23, Meridian 3, a shallow test well, was drilling. Aladdin Gas and Oil Company, Limited, in Section 33-18-17, Meridian 2, in the Pilot Butte vicinity, was drilling below 2823 feet. Near the town of Simpson, Simpson Gas and Oil Company, Limited's well, Section 9-25-29, Meridian 2, had encountered salt at 3500 feet.

Afghanistan Monopoly

J. G. Groeninger of Karachi, India, reports that the government of Afghanistan has granted a petroleum company a monopoly for the importation of all oils, presumably including gasoline used in motor cars, with all other firms and persons prohibited from importing such products. The monopoly does not include kerosene.

This is the method of transporting production from the Cuban well to the railroad.

MARKETS ~ STATISTICS

Market prices remain unchanged but are slightly firmer due to likelihood that East Texas marketing agreement will be put in working condition soon. Pacific Coast marketing plan working effectively and optimism prevails on the West Coast.

Markets Depend on Outcome of Efforts to Control East Texas

THE general market condition remains unchanged from the previous week, although there is a firmer undertone, which is based upon hopes that the East Texas marketing agreement will become effective shortly and that the new Texas allowable will curtail production from this field. The most favorable market development of the week was the apparent successful application of the Pacific Coast marketing agreement, which places the West Coast in the strongest position of any sector of the country.

In East Texas 85 percent of the refining capacity has signed the marketing agreement. This is the required figure, and it is hoped that the plan will be placed in working order immediately. Major companies have agreed to the plan 100 percent and are ready to start buying distress gasoline; only a few minor details remain to be settled. It was approved by Oil Administrator Harold L. Ickes on June 25.

Meanwhile production from the field continues unabated. It could hardly be expected to decline this week, the first seven-day period under the new allowable.

The next week will be an important one for the market. If plans proceed as expected the East Texas marketing agreement should become effective and the production from the field should be lowered. Should both become effective the market may be expected to strengthen as East Texas is the weakest spot in the entire country. However, should the field continue to produce more oil than can be absorbed and should this continue to be offered at prices far beneath the posted market, it is unlikely that major purchasers will be able to hold their price schedules, which they have been doing largely because of faith in the future. Because of these conditions buying has been slow, and will continue so as long as the uncertainty prevails. It is not likely that the lower East Texas allowable, although it may reduce the total output of the field somewhat, will have any effect on "hot" oil production, but the marketing agreement may, and therein lies the chief hopes of a stronger market.

The greatest gleam of hope comes from the West Coast, where the marketing agreement became effective July 1. This area, which has been infested with devastating price wars, received a two to two and one half cent raise in retail prices when the market plan became effective and now there are rumors that an additional increase may be forthcoming. Optimism is prevailing along the coast. The plan provides that refiners are not to purchase any crude oil produced in excess of allowables, that the major companies will purchase distress gasoline at a fair price and that all gasoline is to be sold at a fixed posted price. Already the agency set-up to handle the buying of distress gasoline has made some purchases from refiners without storage capacities and cut price signs have practically disappeared.

If the plan can only be made as effective in East Texas as on the West Coast, refiners, producers and marketers may expect a fair market during the remainder of the heavy consuming period.

Meanwhile the federal government is considering a plan for adopting the California marketing plan on a national scale. This will likely be done if it can be made to work in East Texas, where code violations are flagrant. Some are of the opinion that nothing without strict police power and heavy penalties can be made to work in East Texas, but it is to be hoped that the award of stronger prices will overcome many of these refiner's habits of the past.

THE OIL WEEKLY
Estimated Average Daily Production of Oil, Barrels.

District or State	Week Ending July 7	Week Ending June 30
TEXAS—		
Texas Panhandle	58,000	58,000
North Texas	58,000	58,000
West Central Texas	27,000	27,000
West Texas	142,500	145,000
East Central Texas	53,300	55,000
East Texas Field	496,500	508,000
South Texas	49,000	49,000
Texas Gulf Coast	170,000	170,000
Total Texas	1,054,300	1,070,000
OKLAHOMA—		
Oklahoma City	178,590	177,757
Seminole Area	114,650	128,700
Tatums	6,725	6,575
Lucien	5,825	9,875
Others	194,635	192,125
Total Oklahoma	500,425	515,050
KANSAS—		
Ritz-Canton	15,080	14,675
Voshell	6,225	7,150
Nikkel-Hollow	17,450	16,125
Sedgwick	7,225	7,525
Others	94,570	85,850
Total Kansas	130,550	131,325
LOUISIANA—		
North Louisiana	25,100	25,000
Louisiana Gulf Coast	65,000	69,000
Total Louisiana	90,100	84,000
ARKANSAS	31,000	31,200
CALIFORNIA—		
Long Beach	69,000	66,000
Santa Fe Springs	43,700	39,500
Huntington Beach	47,000	47,000
Dominguez	21,000	21,000
Inglewood	10,000	10,000
Ventura Avenue	29,000	28,500
Seal Beach	8,500	6,500
Midway-Sunset	54,000	54,000
Elwood	10,500	13,000
Kettleman Hills	55,000	69,000
Playa del Rey	8,500	8,000
Others	156,800	151,500
Total California	514,000	514,000
MOUNTAIN STATES—		
Wyoming	35,000	35,000
Montana	8,500	8,150
Colorado	3,000	3,000
Total Rocky Mountain States	46,500	46,150
NEW MEXICO	48,000	48,000
EASTERN STATES	107,000	105,000
MICHIGAN	32,500	32,000
Total United States	2,554,375	2,586,725

Gasoline Wars

Five vicious gasoline price wars in the Middle Atlantic area have been settled, with full protection for independent marketers. This was the result of conferences between Oil Administrator Harold L. Ickes and leading executives of several major oil companies. Several independents were in serious financial difficulties because of less-than-cost selling in the price wars, which have been raging for several weeks in the vicinity of Huntington and Parkersburg, West Virginia; Roanoke and Richmond, Virginia, and Nashville, Tennessee. Major companies took the first step when they raised their prices to those prevailing before this price war. Gasoline prices now in effect are 20.1 cents per gallon at Richmond.

Negotiations were also opened by the oil administrator for a settlement of other price wars under way in the Mid-Continent area.

Meanwhile, the ruinous Dallas, Texas,

gasoline war broke out anew after a week's truce. One large company had a posting of nine cents for East Texas gasoline. The new war was commenced, it is said, when two independent stations cut from 13 to 12 cents per gallon. The new distress gasoline marketing plan for the East Texas field is expected to stabilize the Dallas market if it is made effective.

Refined Markets

Some material in the third grade, low octane class was reported moving in Tulsa at the close of the week for 3½ to 3⅝ cents, indicating a slightly better tone although moving at prices established during the preceding week. Group 3 markets are awaiting anxiously the placing of the East Texas marketing agreement into working condition, and its prices are expected to show immediate improvement.

The top grade of East Texas gasoline was up ⅛ cent per gallon to 4¼ cents.

The fuel oil market is showing more strength than it has in many years. Fuel stocks have continued to decline until they are at the lowest level in 10 years. The present downward trend in fuel oil stocks is the first decrease in fuel stocks since the war.

United States Crude Production Continues Decline

UNITED STATES crude oil production continued to decline last week, and came within 24,000 barrels of the allowable as fixed by the oil code administration. The average for the week ending July 7 was 2,554,375 barrels daily, a decline of 32,000 barrels from the previous week's figure .

The decline resulted largely from lower output in Texas and Oklahoma, with California showing no net change.

The above figures do not make allowance for "hot" oil, of which considerable continues to be produced, particularly in the East Texas field. The illegal output there is estimated over 50,000 barrels daily, and reports that the figure should be 100,000 barrels are greatly discounted by some of the larger oil companies operating in the area.

While the lower production for the week of July 7 is encouraging, it is hoped that an even lower output will be indicated by the production figures for the coming week, as they will reflect more completely the lower Texas allowable now in effect. At the beginning of the month the railroad commission, state oil administrative body, cut the Texas allowable about 64,000 barrels, reducing it below the quota fixed by the federal government authorities. However, some readjustments have taken away part of this reduction.

Four Texas fields were affected by the commission's order, East Texas, Van, Conroe, and Yates, having been cut about 10 percent each.

Oklahoma production for the week of July 7 averaged 500,425 barrels daily, compared with a July 1 federal allocation of 489,500 barrels, and with 515,050 barrels daily the previous week. Kansas output was under the 134,500-barrel allowable, having averaged 130,550 barrels daily, compared with 131,325 barrels the previous week.

How Production Compares with Federal Allocation

	Allocation July	Week Ending July 7[1] Daily Average		4 Weeks, June 30[2] Daily Average	
Arkansas	33,000	31,000	−2,000	31,350	
California	509,400	514,000	+4,600	516,950	
Kansas	134,500	130,550	−3,950	129,050	
Louisiana	88,900	90,100	+1,200	89,350	
Texas	1,042,100	1,054,300	+12,200	1,061,200	
Oklahoma	489,500	500,425	+10,925	537,750	
New Mexico	46,600	48,000	+1,400	48,000	
Rocky Mountain	44,200	46,500	+2,300	46,250	
Appalachian States	108,900	107,000	−1,900	102,450	
Michigan	33,200	32,500	+300	31,400	
United States	2,529,300	2,554,375	+25,075	2,593,750	+65,450[3]
Imports crude and fuel oil				161,179	
Crude to Stills[2]				2,515,000	

[1]Oil Weekly estimate for current week. [2]A. P. I. estimate. [3]Allowable for June was 2,528,300 barrels.

California Marketing Plan Brings Optimism

THE new marketing plan, which replaces the discarded cartel, for the oil industry on the West Coast to all intent and purposes is in full effect, and for the first time in several years few pessimists can be found in the sales departments of the various oil companies in California. One sales manager of a large independent company remarked "I am extremely optimistic as to the future. In fact, I am buying every share of stock of my company I can get my hands on." Not many sales managers have been in the market for stock in their companies for a long time.

The final major step was taken in San Francisco June 30, when an assistant U. S. attorney, representing the government, filed in federal court a stipulation approving the new marketing plan in effect, and agreeing to modification of the federal injunction, on five specific conditions. The oil companies through their representatives accepted. This action assures modification of the injunction made of record in 1930 and accepted at that time by the companies involved. Among other matters the injunction forbids the purchase of surplus gasoline from small companies by the majors.

The agency, provided for by the new plan, has been set up and is in operation, purchasing surplus gasoline, under certain conditions, from refiners. Each refiner is given a quota. If all this gasoline quota is not sold in regular channels, then the agency takes the part unsold at a price guaranteeing a reasonable profit to the refiner.

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended June 30, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	442	75.9	5,331	11,091	16,422	1,199	217	9,044	496	471	95.0	70
Appalachian	150	140	93.3	97	69.3	939	716	1,655	304	163	859	69	69	100.0	24
Ind., Ill., Ky	446	422	94.6	342	81.0	5,446	3,106	8,552	1,164	45	3,236	325	309	95.1	103
Okla., Kans., Mo	461	386	83.7	246	63.7	3,390	1,833	5,223	726	554	3,425	256	238	93.0	63
Inland Texas	351	167	47.6	92	55.1	937	135	1,072	285	383	1,564	82	66	80.5	26
Texas Gulf	566	552	97.5	448	81.2	3,806	218	4,024	1,624	210	6,952	358	355	99.2	87
Louisiana Gulf	168	162	96.4	133	82.1	532	668	1,200	231	.....	1,474	71	71	100.0	23
North La.,—Ark	92	77	83.7	45	58.4	242	46	288	66	29	448	41	38	92.7	10
Rocky Mountain	96	64	66.7	44	68.8	1,094	.....	1,094	172	40	648	46	42	91.3	14
California	848	822	96.9	446	54.3	10,486	1,389	11,875	944	2,559	78,573	209	209	100.0	44
TOTALS WEEK: June 30, 1934	3,760	3,374	89.7	2,335	69.2	32,203	19,202	51,405	6,715	4,200	106,223	1,953	1,868	95.6	464
June 23, 1934	3,760	3,374	89.7	2,420	71.7	33,243	18,577	51,820	6,941	4,250	105,580	1,953	1,868	95.6	445

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week, June 30, 1934, compared with June 1933 Bureau figures.

Estimate B. of M. Basis June 30, 1934	2,495		500
Estimate B. of M. Basis June 23, 1934	2,580		480
U. S. B. of M. June 1933: Daily Average Crude Runs	2,487	U. S. B. of M. June 1933: Daily Average Cracked Prod.	529

(a) Amount of unfinished gasoline contained in naphtha distillates.
(b) Estimated. Includes unblended Natural Gasoline at refineries and plants; also blended Motor Fuel at plants.

A total of 35 refiners, large and small, signed the new plan agreement. Each agrees not to purchase any crude produced in excess of the allowable. Provision is made to provide crude to the smaller refiner, if needed to make his quota, at the prevailing posted price.

Price Cutting Is Prohibited

Gasoline of the same quality must be sold at identical prices, regardless of brand. This means the independent service station cannot sell a small refiner product at less than a similar product is sold by a major company station, if the gasoline is equal in quality. This one feature may cause a lot of trouble, since independents have for years contended it was their right to sell at least slightly under the major station which pumped a well advertised product.

Service stations must be so conducted to prevent monopolies or oppression against smaller concerns. All parties agree to a code of fair competition and agree to a conduct of business so as to prevent unfair competition.

The newly created agency is now in operation and already several gasoline purchases have been made under the new plan. There is a growing scarcity of cut price signs, held in place at some stations as they sold off their stock purchased under the old lower prices. But these station owners have been informed in no uncertain terms if they continue to sell at cut prices, no new deliveries will be made under any circumstances. This promise is bringing down the cut price signs one by one as the station owners become convinced the refiners at last mean what they say.

Reports are current that retail gasoline prices are to be again advanced, probably one to 1½ cents a gallon. A raise of one-cent would make third grade sell in Southern California at 16.5 cents and slightly higher in the north part of the state. Most of the gasoline made by the smaller refiners retails at the third grade price.

Production of crude petroleum in Trinidad, B. W. I., for April, 1934, amounted to 876,950 barrels. Exports of crude petroleum for April amounted to 286,610 barrels.

Summary of Field Results During Past Week

State	Completions	Oil wells	Gas wells	Failures	Init. prod.
California	7	6	0	1	26,255
Colorado	1	0	0	1	0
Kansas	31	21	0	10	10,227
Louisiana	10	3	0	7	0
Michigan	13	9	1	3	11,919
Mississippi	1	0	1	0	0
Montana	2	2	0	0	376
New Mexico	6	6	0	0	18,685
Oklahoma	45	32	0	13	32,572
Texas	225	162	4	59	518,619
Total	341	241	6	94	618,653

Comparison of Permits Granted for New Wells

State	Week ending July 7	Total this month	Total this year	Total this date last year	1933 year total
Arkansas	1	1	44	28	47
California	12	12	283	243	593
Louisiana	13	13	389	303	755
Kansas	20	20	511	255	682
Michigan	8	8	227	141	420
Oklahoma	39	39	1126	489	1,315
Texas	327	327	6550	2944	7,845
Total	420	420	9130	4403	11,651

Strict Regulations to Govern Blue Eagle Use

Washington, D. C.—Regulations governing the distribution of Blue Eagle posters to members of the petroleum industry were this week made public by the Planning and Coordination Committee and disclose that the insignia will not be given out in bulk to companies for their various plants but will be issued direct to each location after the right of the plant to receive it has been passed upon by a subcommittee of the regional committee.

Distribution of the Blue Eagles will be controlled by the Division of Investigations of the Interior Department, and provision is made for withdrawal by the Petroleum Administrative Board in the event of code violations.

The regulations which will govern the distribution are as follows:

"Supplies of the Blue Eagle will be furnished to the special agent in charge of the Division of Investigations, Department of the Interior, for each district.

"The special agent in charge shall mail a copy of the Blue Eagle poster to all persons engaged in the petroleum industry in the state. Applications shall be made to appropriate state or regional committees under the petroleum code, and transmitted by said committee to the special agent in charge, subject to the conditions hereinafter set forth.

"No poster shall be furnished any applicant against whom an adverse report has been returned by the Division of Investigations, Department of the Interior, unless and until an investigation made discloses that he is now complying with the code or until a court of competent jurisdiction finds that the applicant has not been guilty of a violation.

"Where a person applies for a Blue Eagle poster and it is found that there is pending against such person a complaint upon which an investigation has not been completed, the Blue Eagle poster may, nevertheless, be given to such person on approval of the proper local subcommittee of the regional committee under the petroleum code when the violation has been discontinued and the person gives assurance by way of affidavit that the petroleum code will not be further violated.

"Where a complaint has been filed against the person and if there is doubt in the minds of the local sub-committee as to whether or not the complaint states a violation of the code, the Blue Eagle may be distributed to such person pending a determination by the proper authority as to whether or not violation of the code exists. If the complaint is upheld, the person may continue to display the Blue Eagle under the conditions and assurances above set forth.

Right Revoked

"The right to display the Blue Eagle shall be revoked by the Petroleum Administrative Board and the Blue Eagle poster shall be recalled for any of the following causes:

"(1) Any subsequent violation of the petroleum code upon which an adverse report has been returned by the Division of Investigations of the Department of the Interior, unless and until investigation discloses that the violator is now complying with the petroleum code, or until a court of competent jurisdiction finds the applicant has not been guilty of violation.

"(2) Any violation of any agreement executed pursuant to the petroleum code or under the authority of the National Industrial Recovery Act.

"The Blue Eagle poster remains the property of the United States Government, and no person shall display the same after his right to do so has been revoked, and any violation of this rule shall be subject to the penalties set forth in Section 10(a) of the National Industrial Recovery Act."

First East Texas Distress Gasoline Purchased Under Plan

Washington. — First contracts for the purchase of surplus gasoline made from East Texas "hot" oil were announced July 6 by Oil Administrator Harold L. Ickes. The agreements cover 12,200 barrels, at an average price of 3½ cents per gallon, taken by Magnolia Petroleum Company, Standard Oil Company of Kentucky, Sinclair Prairie Oil Company and Phillips Petroleum Company from the Lotus, East Texas, Trio, Arrow and Texas Oil Products Refining companies.

To assist in enforcing the contract provisions against further processing of "hot" oil, each contract holds back 25 percent of the payment price, which will not be turned over if any "hot" oil is refined.

"Hot" Oil Market Is Said to Be Decreasing

Tyler, Texas.—Estimates on the volume of crude produced illegally in the East Texas field during the past week ranged from 50,000 to 60,000 barrels daily. This is a slight decrease from estimated figures covering the activity of proration violators the previous week, and was believed due to excess stocks of gasoline, fuel oil and other refined products held by independent refiners in the district, rather than from interference given by state or federal authorities assigned to the field.

Refineries and topping plants operating on alleged "hot" oil have been experiencing great difficulty lately in finding a market for their entire products in spite of price shadings. Congested storage facilities have forced a curb in crude runs. This condition has kicked back on the waste oil reclaiming plants and some small crude gathering systems engaged in handling crude of a questionable source and of the type that can not qualify on tender requirements.

Crude runs by trunk lines extending from the field declined about 19,000 barrels daily in averaging 479,550 barrels daily for the week ending July 2. The allowable for the field during this period, as determined by the railroad commission's Kilgore office, was 510,770 barrels daily from 13,775 completed wells. An accurate accounting of crude throughput or receipts by local plants is not possible, since many do not divulge the correct information on their activities to the state authorities.

A vast amount of clerical work imposed on pipe line companies abiding by the commission's rules was dispensed with June 29 when orders were issued to discontinue the filing of daily "E-L" reports, covering crude receipts and deliveries, and the "E-M" reports, requiring a daily statement of runs for each lease served. However, monthly reports will be required as in the past, individuals and companies engaged in handling illicit crude did not reveal such crude on their daily reports, thereby nullifying their purpose.

Efforts are still being made to work out a signed agreement that will bring all East Texas plants under the oil code restrictions in return for which majors will enter the market and buy up excess gasoline stocks and also future production. Howard Bennette, national refining coordinator, is taking the initiative in trying to put the plan into effect, but has encountered many obstacles.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to July 6, 1934)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia	Below			
Humble, Rabbs Ridge	20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
Eldorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
	Below			
Iowa, Cameron Mds.	20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Elk Basin	$*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Ponders	*.65			8-25-33
Hog Back, N.M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.17			9-29-33
California				
Signal Hill	14— .65	1¢	16—$ .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B.,Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans				
Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.22	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway Sunset, Elk Hills,Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.25			4- 1-34
Sw Pa., Pipe Line	*2.22			4- 1-34
Eureka Pipe Line	*2.17			4- 1-34
Buckeye Pipe Line	*2.07			4- 1-34
Corning Grade	*1.20			9-11-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
Mar. 5, 1933	.....	.....	Cut 24c
May 2, 1933	.....	Cut 19c	.....
May 9, 1933	Cut 20c	.....	.....
May 22, 1933	Up 10c	.....	.....
June 19, 1933	Up 10c	Up 19c	.....
June 26, 1933	Up 10c	.....	Up 9-12
July 6, 1933	Up 13c	Up 10c	.....
July 17, 1933	Up 15c	.....	.....
July 28, 1933	Up 15c	.....	.....
Aug. 11, 1933	Up 10c	.....	.....
Aug. 24, 1933	.....	Up 10c	.....
Aug. 30, 1933	Up 15c	.....	.....
Sept. 6, 1933	Up 10c	Up 10c	Up 15c
Sept. 8, 1933	.....	Up 15c	.....
May 1, 1934	Up 10c	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

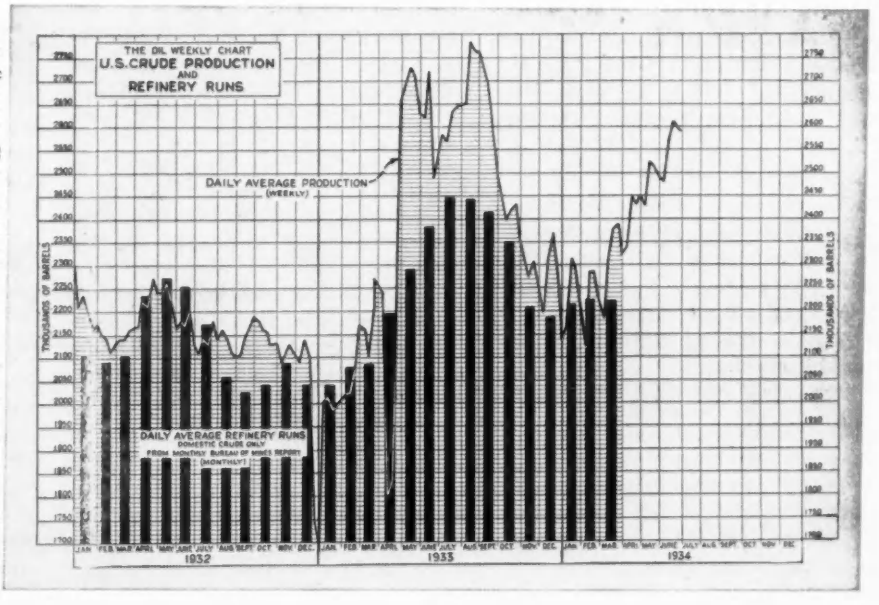
Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.



MEN IN THE INDUSTRY'S NEWS

RALPH B. ROARK, production manager for Shell Petroleum Corporation, returned to his office in Tulsa during the week after spending the past six months in Europe. Mr. and Mrs. Roark left Tulsa on January 29, going first to The Hague, Holland, where Mr. Roark spent three months at headquarters of Royal Dutch Shell. Their tour of Europe was commenced on March 17.

G. ELIAS, production superintendent for Soc. Unirea, Ploesta, Roumania, and Mrs. Elias sailed from New York on Saturday, July 7, having completed an eight weeks' tour of American oil fields and study of equipment.

"SHEP" ALLEN, chief scout for the Empire Companies, who operates out of Seguin, Texas, has recovered from an appendicitis operation and is now back on the job.

R. R. IRWIN of Kansas City, president of White Eagle Refining Company made an inspection tour of the company's plant at Casper during the past week.

JOHN D. NORTHRUP, assistant chief of the Conservation Branch of the Department of the Interior, visited the Casper offices of the U. S. Geological Survey while enroute to his home in Washington, D. C., after an extended trip through the southwest inspecting government properties.

ROBERT ICKES, son of the Secretary of the Interior Harold L. Ickes, the Oil Administrator, arrived at the West Gate of the Yellowstone National Park this week where he will be stationed as a ranger during the summer months.

R. E. DOWNS, aged 52 years, for 18 years drilling foreman for Standard Oil Company in California, died of a heart attack July 2 at the home of a sister in Los Angeles. He had been in ill health for several months.

NIC N. STEFANESCU, chief engineer, I. R. D. P. Oil Company of Roumania, was visiting and inspecting California oil fields the first part of July after spending some time in other oil producing areas of the United States.

J. C. HERBERT, assistant counsel of The B. F. Goodrich Company, has been elected vice president and general manager of Pacific Goodrich Rubber Company, Los Angeles.

F. E. Titus has been elected vice president of The B. F. Goodrich Rubber Company in charge of tire sales for the company's four Pacific Coast districts.

Herbert joined the Goodrich legal department in 1927. He went to Los Angeles in 1928 as secretary of Pacific Goodrich Rubber Company and returned to Akron in 1931 as assistant counsel of The B. F. Goodrich Company.

Titus, a veteran sales executive, has been with Goodrich since 1907. He has been in California since 1928 as general sales manager of Pacific Goodrich Rubber Company, which position he will also retain.

G. W. Hubbell has been elected assistant secretary and assistant treasurer of Pacific Goodrich, also effective July 1. He has been with Goodrich in treasury and accounting departments since 1911.

BEN F. MORGAN has been added to the South Texas scouting staff of Standard Oil & Gas Company, headquarters in San Antonio. Several years ago he was connected with Gulf Production Company.

GEORGE M. McINTYRE, general superintendent in charge of Continental Oil Company's North Texas and New Mexico division office at Fort Worth, has resigned to enter the production field as an individual operator. He has been with Continental Oil Company for the past seven years. He was superintendent in charge of field operations in the Texas Panhandle for Marland Oil Company at the time of its merger with the above concern, and shortly after the consolidation was moved to Lea County, New Mexico, to take charge of an active drilling program then in progress. McIntyre was later transferred to Fort Worth.

H. B. Simcox, well known figure in Mid-Continent oil circles, and at present manager of production and drilling for Continental Oil Company in California with headquarters at Los Angeles, has been transferred to Fort Worth to succeed McIntyre.

H. E. MINOR, chief geologist for Gulf Production Company, Houston, left last Monday for a vacation in Colorado.

Announces Federal Agency Committee Appointments

Washington, D. C.—Appointment of George W. Ratcliffe, president of Union Gasoline & Oil Corporation, Pittsburgh, as a member of the Natural Gasoline Committee for regional district Number 1 was announced this week by the Planning and Coordination Committee.

The committee also announced the appointment of C. R. Musgrave, Bartlesville, Oklahoma, as a member of Transportation Sub-Committee H; D. C. Williams, Continental Oil Company, Ponca City, Oklahoma, to Natural Gasoline Sub-Committee J; and F. C. Nickel, Midland Gasoline Company, Houston, to Natural Gasoline Sub-Committee J to succeed F. E. Rice, Phillips Petroleum Company, Bartlesville, Oklahoma, retired.

Membership of the regional district Number 3 Labor Sub-Committee has been approved, as follows:

H. J. Lowe, Pure Oil Company; R. R. Bascom, Shell Pipe Line Company; George Uzzell, Ohio Oil Company, Findlay, Ohio; L. W. Cameron, Standard Oil Company (Indiana), Chicago; H. E. Hall, Shell Petroleum Corporation, St. Louis, Missouri; R. C. Jopling, Phillips Petroleum Corporation, Bartlesville, Oklahoma; J. F. MacMahon, Sinclair Refining Company, Chicago; R. W. McDowell, Mid-Continent Petroleum Corporation, Tulsa, Oklahoma; Wm. H. Merritt, Empire Oil & Refining Company, Tulsa, Oklahoma; W. C. Morris, Pure Oil Company, Chicago; George Olds, Jr., Continental Oil Company, Ponca City, Oklahoma; A. A. Stambaugh, Standard Oil Company, Cleveland, Ohio; W. G. Violette, Standard Oil Company (Kentucky), Louisville, Kentucky; S. B. Wright, The Texas Company, Chicago.

Market Violation Case Is Postponed

Fort Worth, Texas.—The oil code administrations suit against Continental Oil Company for alleged violation of the minimum price feature of the code in Dallas was postponed until July 23 after being originally scheduled for a hearing here July 5. An injunction is being sought in federal court to restrain the company from selling gasoline below cost.

Potential Markets, Probable Supplies Should Be Studied

Austin, Texas, June 29.—An economic and physical survey of the petroleum industry in Texas has been made by Elmer H. Johnson, industrial geographer in the Bureau of Business Research at University of Texas. By studying the industry during the depression, Johnson has considered the future problems and prospective status of the industry.

"Dominant though the petroleum industry is in Texas, its future outlook is of greatest concern to the people of the state," he said. "This outlook will be determined in many cases and greatly modified in other cases by reserves of oil in Texas and othed states of the Southwest; reserves in other parts of the world, particularly in Russia and the lands bordering the Caribbean Sea; the degree of application of science and technological processes to the production of crude oil, to refining, and to the utilization of oil products; and to the trends in market demands for products of crude petroleum.

"The strength of the economic position of the oil industry during the years of the depression is highly indicative of the strategic position oil products have attained in modern economic life. Crude oil production in this country reached its high point in 1929, but in 1930 it was 103.5 percent greater than the average of crude oil production for the five-year period, 1918-22; in 1931, it was 92.8 percent higher, and in 1932, 77.1 percent greater. In 1933 there was a considerable gain over production in 1932. By way of contrast it may be noted that production of pig iron in the United States in 1931 was only half what it was in 1920; and in 1932, it was less than one-fourth of the 1920 production.

"Due to the introduction of technical processes in refining, however, the real strength of the oil industry is shown in the trends of its refined products. In 1929, the production of gasoline in the United States was 284.5 percent greater than it was for the average of the five-year period of 1918-22; in 1930, 281.9 percent; in 1931, 281.3 percent; and in 1932, 246.9 percent These percentage increases in the production of gasoline would be higher still were the amounts of natural gasoline included. Moreover, in 1929 and 1930 United States exports of gasoline were considerably higher than they have been during the past two years. The strength of the American oil industry during the depression has been the proportion of the Nation's purchasing power which has been expended for oil products.

"Several problems, however, loom up as of possible importance to the oil industry in the near future. One of these is that of disparity between oil reserves and oil production in the North American countries, as evidenced by a recent authoritative statement: 'North America, credited with only a moderate share of the oil reserves of the earth, produces over two-thirds of the output.' Another factor of probable importance is the increased use of the Diesel engine in the United States in recent years. Still another is the growing tendency in this country to regard crude oil as a chemical raw material. Modern refining enterprises are not only widening the range of products derived from crude oil but also at the same time materially raising the quality of these products.

"Still another item of great importance is the growing decentralization of the oil refining industry. In recent years oil refining operations have been materially increased not only in Russia but in many of the countries of Western Europe; a similar growth is noticeable in Canada and in other countries. In 1933 for the first time in several years the exports of crude oil from the United States exceeded our imports. More than half our crude oil exports of last year went to Canada; France took 21 percent and Japan 15 percent. Moreover, most of the American imports of 1933 were heavy crudes required for the manufacture of asphalt; most of these went to the Atlantic Seaboard.

"Finally it is to be emphasized that no industry can maintain itself in a static condition. As the late Allyn Young wrote a few years ago, 'If production and trade were always managed with complete efficiency and if producers and traders always had a complete knowledge of the market, it would be impractical and uneconomical to keep all the various processes of production and distribution moving together so as to maintain a smooth and even flow of goods from the first producers to the final buyers.' For the oil industry as a whole it is necessary to consider the probable supply of products it can furnish to the markets in the near future. Potential markets have to be given first consideration from the long-time point of view of industry adjustments. Thus Texas' stake in the oil industry is not by any means confined to compartments within the boundaries of the state; and it is no less concerned with competition elsewhere than it is with the changes and expansion of markets for oil products the world over."

Drilling of First Oil Well to Be Celebrated

Titusville, Pa.—The seventy-fifth anniversary of the drilling of the first oil well will be celebrated at Titusville, Pennsylvania, this year with a four-day celebration to be known as the Diamond Jubilee of Oil, starting August 24 and concluding with a dedication on the swenty-seventh of a state park at the site of the original oil well.

The park, many acres in extent, has been made possible by citizens of Titusville and the American Petroleum Institute, which sponsored the raising of a sum of $60,000 for the erection of a caretaker's cottage and a suitable museum. The commonwealth of Pennsylvania will, on August 27, formally accept the park as state property.

A large sum of money has been subscribed to provide adequate and fitting entertainment for the 50,000 visitors expected and among other features will be an exhibit or exposition for oil field equipment and machinery manufacturers and for marketers and refiners. This exhibit will mark the first exhibit of its character which has ever been held in the East and the plan has been enthusiastically received by exhibitors.

Among other features will be a pageant which will depict the entire history of the oil industry. This will be under the direction of some of the personnel of the Carnegie Institute of Technology.

An historic and industrial parade is listed among other features, as well as an amateur boxing tournament featuring virtually all the state champions in various classifications.

Negotiations have been completed to obtain the best bands and music for the celebration.

Among other unusual angles of the four-day celebration will be the Hall of Hospitality sponsored by the Pennsylvania Grade Crude Oil Association which will provide rest rooms of an unusual character for visitors and what is to be known as the Drake Club where admission will be by card only and this part of the Hall of Hospitality will be fur-

(Continued on page 56)

Company Employees Receive *Benefit from Well-Planned* Vocational Training Course

AN educational program designed to give the average production department employe a well-rounded conception of petroleum is being carried out by Humble Oil & Refining Company. The program has been made flexible to meet changing conditions, or to meet any special condition or problem which may arise. Vocational advancement, rather than the usual vocational training, has been featured, and the man doing the lowest type production work is given a chance to fit himself for a more advanced job.

No attempt has been made to force the student to accept one given way of performing a task, but suggested ways are shown, so the employe will be drawn into the discussion and bring out his experience and ideas. One of the chief aims is to coax the employe to take an active part in the discussions, and in doing so think for himself. Where a student takes no active part, it has been found that he may be inclined to "let a thought go in one ear and out the other."

Classes have been organized in the various producing districts and employes invited to enroll. Supervisors were selected on the basis of their ability to analyze the subject matter. He may be a field superintendent, district superintendent, geologist, petroleum engineer, driller or practical field man, but a special effort was made to find one who would take a strong interest in the course. About 30 classes have been organized in as many districts, and enrollment has been encouraging. Average attendance has been good. Meetings are normally held twice each month.

The educational course has been named "Production Methods." It is printed in pamphlet form, one pamphlet ordinarily composing a lesson. The entire series is based on the assumption that the average employe knows too little about petroleum in general and production methods in particular. Enlightenment and advancement usually come to employes who take an interest in their work, and an analysis of the subject matter in the course reveals this basis excuse for such a course.

Some of the supervisors have given considerable time to preparation of each lesson, and have prepared elaborate drawings to show geological, construction and production problems. One drew a horizontal and sectional map of a producing field to give the pupils a graphic view of producing conditions.

The conference method of teaching has been encouraged and stressed. This method has been recommended because it encourages the student to think for himself. Each man having a constructive idea is encouraged to give it to the class. The lesson outlined is followed, but some of the discussions bring out so many ideas that only a small portion of the lesson is completed.

Flexibility of the course was demonstrated recently when an order issued by the Texas Railroad Commission required daily reports on production of each well. The average lease man was not familiar with gauging methods, and converting feet and inches of oil to barrels, with temperature corrections, was no easy task. The course was planned so that changes could be made to handle such emergencies.

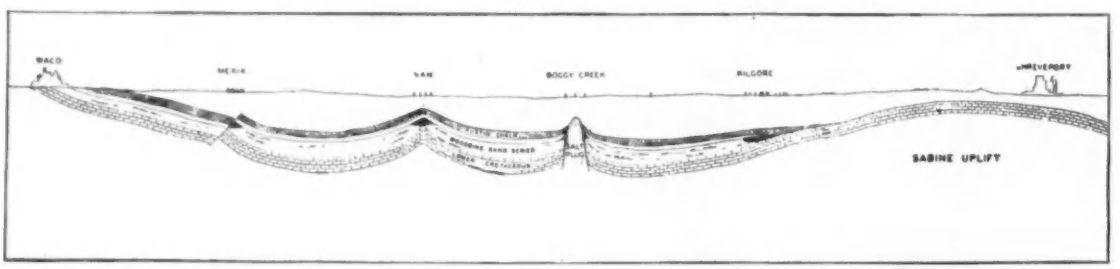
Geology

The first two pamphlets are devoted to "Where Oil Is Found." Origin of the earth, changes in the earth's structure through erosion, and other phenomena are discussed. Elementary structural types are shown and explained. Illustrations show how the earth's surface may be changed by erosion. Early animal and plant life on the earth is discussed to give the employe a basis for future lessons.

The second part discusses fossils, origin of oil, accumulation of oil, fault fields, salt domes, buried shore line fields, West Texas type fields, and serpentine plug fields. A cross section of part of the Woodbine sand series is one of the illustrations that shows different kinds of structures in the same formation can act as reservoirs for accumulation of gas and oil. Along the cross section, which reaches from Shreveport to Waco, the East Texas, Boggy Creek, Van, and Mexia fields are shown. They are excellent examples of old shore line, salt dome, anticlinal and fault types of fields, respectively. These cross sections give the production employe a broader conception of underground conditions, and encourages him to believe that underground conditions are not a mystery that only a select few may understand.

Practical geology is given a good play in the third pamphlet, "Doping Out the Structure." In this pamphlet, the geologist's work in locating a structure is described in an entertaining manner. It shows there is nothing of a mysterious nature about application of geology to finding oil. The geologist's work in a proven field is also discussed, with special stress on his recommendations for finishing wells.

Work of the geophysicist with the magnetometer, torsion balance, and seismograph is also discussed in the third pamphlet.



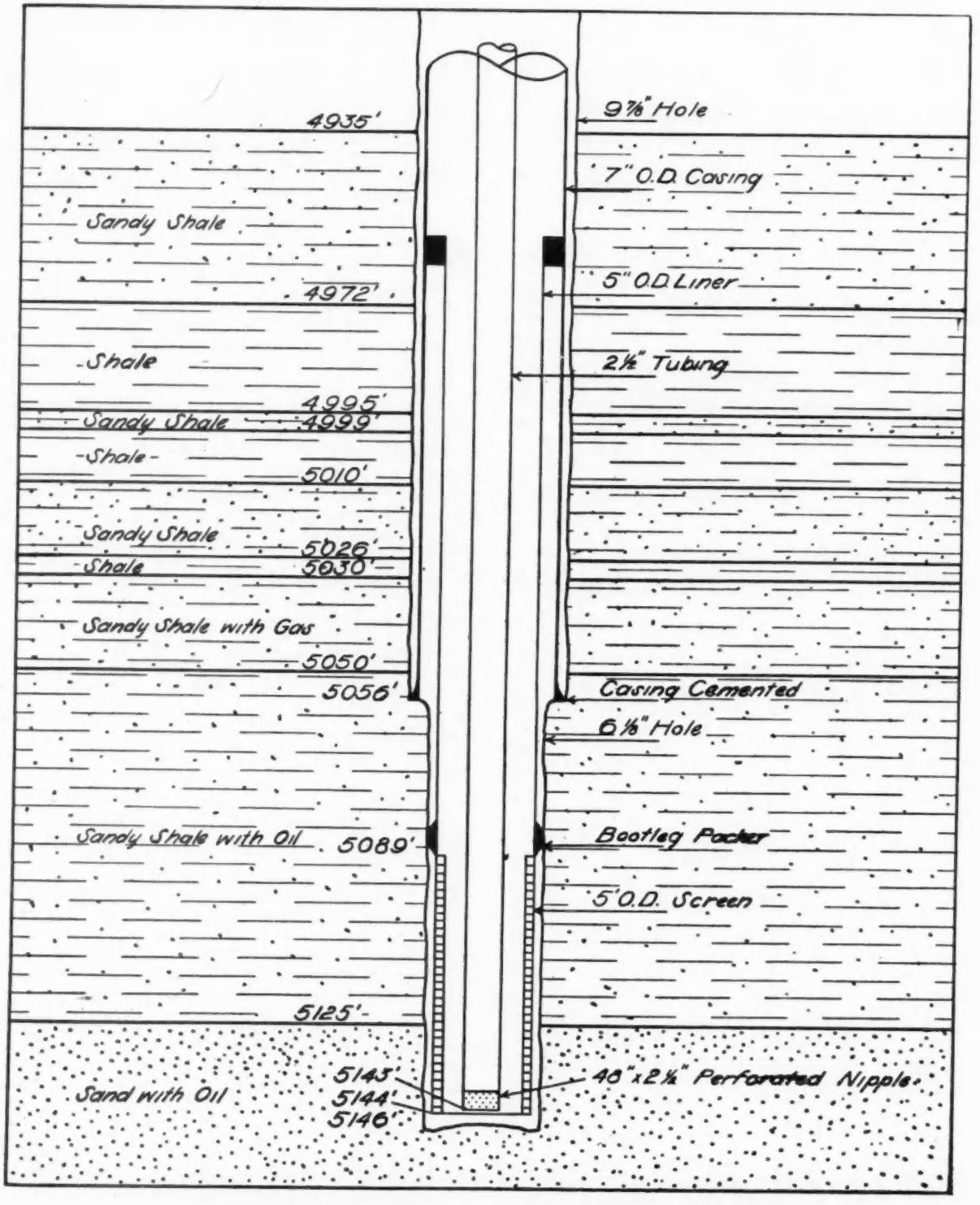
Cross section of a part of the Woodbine sand series, showing that different kinds of structures in the same formation can act as reservoirs for the accumulation of gas and oil.

Some idea of the uses of these instruments is given, and the operating principles are shown in brief.

The fourth pamphlet, "Acquiring the Right to Drill for Oil and Gas," describes what usually happens after the geologist has located the structure and recommended to the land and lease department that they should attempt to obtain leases over and near the dome for future development. Such subjects as purchase in fee, leasing, checkerboarding and blocking, and diplomacy are discussed. Value of unit operation of an oil pool is pointed out.

Behavior in Reservoir

The second part of the fourth pamphlet and the entire fifth pamphlet are given to "The Behavior of Oil, Gas and Water in a Reservoir." The three states of matter, characteristics of oil in a reservoir, changes in formation pressure, water drive, irregular encroachment of water, permeability of the sand, recovery percentage, coning effect, combined effect of water drive and gas energy, and a dozen other subjects are covered in these pamphlets. The explanation is such that the average employe may understand the value of following several well



Drawing showing geologist's recommendation for finishing a well.

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defined laws in production of oil and gas. In the summary it is shown that from 70 to 90 percent of the oil is left underground, and that by proper production methods the recovery in any field may be increased. Extravagant gas waste, high gas-oil ratio, and other bad practices are discussed.

The sixth and seventh pamphlets are also devoted to the behavior of oil, gas and water in a reservoir. Well spacing, conservation of gas energy in a reservoir, controlling high gas-oil ratio wells, pressure maintenance, repressuring, water flooding, and several other subjects are covered in these pamphlets. All these subjects are discussed in an easily understood manner. The pamphlets are written so that newest production methods may be discussed in conferences. Examples of fields that have been produced properly and improperly are shown, and the advantage is so obviously in favor of the former that the employe quickly grasps the importance of efficient production methods.

Production Program

The eighth pamphlet deals with "Planning a Development and Production Program." In this pamphlet a situation is given and the employe is asked to plan a development production program for the field. It is assumed that daily average production will be 25,000 barrels per day, geologically the field is a dome, production comes from a series of sands and shales from 10 to 150 feet thick, the proven area at present is 2200 acres, the sand porosity 23 percent, original reservoir pressure at a depth of 4075 feet was 1830 pounds, cost of completing a well will be $20,000, and a refinery nearby will purchase 25,000 barrels per day. It is not known at what rate water will flow into the field, but it is estimated that if the pressure on the field were atmospheric, water would flow into it at the rate of 20,000-25,000 barrels daily, and the higher the pressure on the field, the lower will be the rate of water entry. Twelve wells have been drilled and completed. The problem is to plan an efficient and orderly development program.

The ninth pamphlet tells of "Drilling the First Well," and gives preliminaries to erecting the derrick. Locating the well, cable tool drilling, rotary drilling, comparison of rotary and cable tool methods, clearing the drilling site, mud pits and ditches, and derrick foundations are described in this pamphlet.

The tenth pamphlet discusses erection of the first derrick, scientific design of the modern derrick, determining the load carried, selection of the derrick, leveling the derrick, and guying the derrick. Importance of proper guying is shown by the space given this phase of derrick construction.

"Selecting the Kind of Power" is discussed in the eleventh pamphlet. The drawworks, slush pumps, rotary tables, prime-movers, steam power, electric power, internal combustion engine drive, and Diesel electric power are considered in the subject matter. Some advantages and disadvantages of all types of power are shown.

The twelfth pamphlet is devoted to "Moving In and Rigging Up." Utilization of rigs, transportation and moving schedule, division of draw works when rigging up, work done by the day crew, work done by the afternoon crew, and other factors are discussed. Humble Oil & Refining Company was a pioneer in developing an efficient transportation schedule.

The thirteenth pamphlet completes the moving in and rigging up operation. Work done by the morning crew, raising the crown block, stringing up traveling equipment, drilling the rat hole, starting the hole, and spudding, are covered in the accepted manner, but it is expected that at the meetings, or conferences, many suggestions will be advanced.

The fourteenth and subsequent pamphlets will not be issued until the activities of the production department is covered. It is hoped the series will serve as a liberal practical education for the average production man.

HIGH SPOTS IN BRIEF

Comparison of completions and new starts during the week indicate a gain in drilling operations, the tabulation showing 341 wells completed and 420 started. Completions were unusually successful, 241 being oil producers with an indicated initial production of 618,653 barrels. The well average, however, was considerably below the previous week when 372 new wells had initial of 831,000 barrels. The increase in new drilling largely was in Texas where permits jumped to 327 after slumping to 132 for the week previous. Texas likewise continues its big lead in completions, East Texas again having 88 against its average of 90 new wells during the past several weeks. North Texas continues active in drilling despite talk of curtailment because of water shortage, the week resulting in completion of 52 tests, half of which were producers, the percentage of failures being explained by an active campaign for extensions of producing spots.

East Texas

The Cayuga field of northwestern Anderson County was extended more than a mile westward when a well capable of producing 20,000,000 cubic feet of gas was completed. New wells are to be drilled in the Rusk area, Cherokee County. Meanwhile the discovery well again is making water, and some doubt remains as to the importance of the strike. Six completions in the East Texas field failed to flow and pumping equipment was installed. Three wildcats in the district were abandoned as dry holes.

West Texas

Natural gas production of the Schleicher County wildcat was increased from 4,000,000 to 6,000,000 cubic feet when shot with 270 quarts. It will be treated with acid. In northwestern Ector County a wildcat test with a hole full of oil has been shut down.

Texas Panhandle

A well located in western Wheeler County has been completed as a record producer for the district. It made 265 barrels per hour of high gravity pipe line oil.

South Texas

The Balcones fault zone came into prominence again with two potential Edwards lime producers in wildcat territory. One is in Caldwell County and the other in Guadalupe County. Both wells will be tested. An extension of nearly one mile seems likely for the North Pettus area. The well is reaming to make a drill stem test.

The Jacob pool of McMullen County was extended during the week by a good producer.

Oklahoma

The first Viola lime production in the Fitts area, Pontotoc County, has been found by a test estimated good for 200 barrels. The Edmond district, northwestern Oklahoma County, is being closely watched as two offsets to the discovery well, completed in 1930, prepare to complete. Both wells are said to be running much higher than the original producer.

New Mexico

Two completions in the Hobbs field, Lea County, provided minor extensions. Completion of one of the largest producers in the North Jal area calls for the drilling of more wells.

Gulf Coast

A third and deeper prolific producing sand has been found at New Iberia, Louisiana, by a well capable of flowing 1000 barrels daily. A strike is expected to start a drilling campaign of considerable size. The second producer in the new Bosco field, St. Landry and Acadia Parishes, Louisiana, was completed for a flow of 35 barrels per hour. The largest completion in the Livingston district, Polk County, has extended that producing area a half mile northeast.

California

The new Inglewood field looks better as a test continues to core ahead in oil sand and shale. It is believed indicative that the new sand at Inglewood will prove fairly prolific. The completion of an unusually small producing well at Huntington Beach came as a surprise.

Oklahoma's Five Months' Output Exceeds Allocation

Oklahoma City.—Thirty-seven Oklahoma counties yielded a total of 73,919,166 barrels of oil during the first five months of 1934 as indicated by pipe line runs reported to the proration department. This is a daily average production of 489,531 barrels compared to the average daily federal allocation of 460,480 barrels.

Oklahoma County was first in total runs for the period with 26,326,864 barrels, Seminole County was second with 13,786,084 barrels, and Osage County was third with 5,359,970 barrels.

Seven other counties in order of their importance were as follows: Creek County, 4,977,961 barrels; Pottawatomie County, 4,591,568 barrels; Carter County, 4,335,222 barrels; Noble County, 1,385,997 barrels; Kay County, 1,273,086 barrels; Lincoln County, 1,214,656 barrels; and Pontotoc County, 1,138,830 barrels.

During the five month period the posted price for 36 gravity Mid-Continent crude was $1.00 per barrel, indicating that Oklahoma producers received a total of not less than $73,919,166.00 for production converted into the pipe lines.

Since the Oklahoma City pool produced 35.61 percent and the Seminole district 18.65 percent of the total, it is believed that average gravity should be greater than 36 degrees. Both of these areas yield an average gravity in excess of 38 degrees.

Although an estimate average of lifting costs for all pools of the state would be a rank guess, it is not believed that the figure would exceed 75 cents per barrel, indicating a net gain exceeding $18,000,000. This figure, although sizeable, does not represent a fair percent of profit when the amount invested is taken into consideration.

Pipe line runs by counties for the five month period are shown in the accompanying tabulation.

Pipe Line Runs—State of Oklahoma, 1934

Based on Oklahoma Tax Commission Figures

County	January	February	March	April	May	Five-Month Total
Caddo	60,953	55,228	57,654	55,625	60,573	290,033
Carter	944,515	799,211	878,292	858,704	854,500	4,335,222
Comanche	530	732	543	601	528	2,934
Cotton	34,410	31,099	35,140	33,194	34,307	168,150
Cleveland	3,461	1,743	891	5,306	None	11,401
Craig	696	184	88	86	53	1,107
Creek	995,681	914,397	1,012,550	998,182	1,057,151	4,977,961
Garfield	78,437	77,168	84,980	77,951	81,524	400,060
Garvin	36,126	33,771	34,896	35,132	37,670	177,595
Grady	54,135	46,326	51,092	49,960	53,199	254,712
Grant	13,661	10,830	13,516	11,570	12,142	61,719
Hughes	179,618	161,728	176,303	172,247	162,560	852,456
Jefferson	78,588	67,004	72,375	68,111	71,024	357,102
Kay	269,660	238,685	265,348	253,057	246,336	1,273,086
Kiowa	None	None	None	320	None	320
Lincoln	199,353	224,863	278,415	229,211	282,814	1,214,656
Logan	51,710	49,015	69,953	188,219	207,720	566,617
Marshall	9,824	8,802	10,403	12,653	12,214	53,896
Muskogee	31,154	26,090	28,074	30,304	30,118	145,740
McIntosh	529	382	346	485	387	2,129
Noble	240,722	194,711	229,726	366,895	353,943	1,385,997
Nowata	175,538	161,873	188,137	179,913	195,639	901,100
Okfuskee	106,902	94,987	110,122	95,000	116,272	523,283
Oklahoma	5,351,899	4,379,753	5,094,041	5,534,383	5,966,788	26,326,864
Okmulgee	174,625	159,269	184,112	172,957	235,822	926,785
Osage	981,248	889,798	1,185,715	1,083,961	1,219,248	5,359,970
Pawnee	119,670	105,262	112,164	117,886	122,161	577,143
Payne	99,098	93,473	108,476	100,885	104,369	506,301
Pontotoc	217,165	210,890	235,663	228,171	246,941	1,138,830
Pottawatomie	947,905	846,530	944,047	926,245	926,841	4,591,568
Rogers	54,826	46,655	56,056	55,395	58,187	271,119
Seminole	2,868,373	2,540,874	2,813,443	2,708,599	2,854,795	13,786,084
Stephens	200,189	174,984	196,199	190,104	208,706	970,182
Tillman	28,620	26,549	27,824	25,760	25,373	134,126
Tulsa	130,678	117,003	128,793	129,268	141,279	647,021
Wagoner	36,440	32,073	37,680	30,656	37,743	174,592
Washington	113,121	98,129	114,962	106,045	119,054	551,311
Totals	14,890,060	12,920,071	14,838,013	15,133,041	16,137,981*	73,919,166
Daily Average	480,324	461,431	478,645	504,434	520,580	
Daily Federal Allocation	446,600	446,600	456,400	476,400	476,400	
Daily Average	33,724	14,831	22,245	28,034	44,180	

*Subject to slight revision.

Two Edmond Offsets Nearing Completion

Edmond, Oklahoma.—The Edmond in northwestern Oklahoma County was proving one of the most interesting areas in the state as two offsets to the discovery well neared completion. The pool was discovered in 1930 by Mid-Kansas Oil & Gas Company at Messer 1, CSW SW SW Section 32-14n-3w, four miles west of the town of Edmond. This test logged Wilcox sand from 6387 to 6393 feet and was shut in during January, 1931, and not reopened until May of this year when it averaged 466 barrels for the month. Mid-Kansas Oil & Gas Company's Dall 1, CSE SE SE Section 31-14n-3w, west offset to the discovery well and only 660 feet away, found top of the Wilcox sand at 6385 feet, 316 feet structurally higher than the discovery well. After drilling to 6393 feet operators set 6313 feet of 6⅝-inch casing. Reports state that eight feet of highly saturated sand was passed through. Plugs will be drilled within the next few days.

Diagonal Offset

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Suneram 1, CNE NE NE Section 6-13-3w, southwest diagonal offset to the discovery well, topped Viola limestone at 6335 feet and set 6⅝-inch casing at 6349 feet after drilling to 6530 feet without finding Wilcox sand. Interval between top of Viola limestone and top of the Wilcox sand in the discovery well was 247 feet, indicating that the Suneram test should find top of the Wilcox sand at approximately 6580 feet, or more than 100 feet higher than this member was found in the discovery well. There is some indication that the Edmond pool may be out of alignment with the general structural trend which is northwest-southeast in this portion of the state. Undoubtedly the difference between the discovery well and the Dall test will ultimately be explained by a faulted condition since it is difficult to visualize a structure dipping at the rate of more than 300 feet over a distance of 660 feet.

First Viola Limestone Production in Fitts Area

Ada, Oklahoma.—W. A. Delaney et al's Craddock 2, CNE NE NE Section 25-2n-6e, in the Fitts area of Pontotoc County, topped Viola limestone at 4032 feet and drilled to 4252 feet, still in Viola limestone. It was bailed down and after being shut in for a short time flowed 45 barrels in 20 minutes. It is estimated good for more than 200 barrels, the first commercial production from Viola limestone in this area.

South Burbank

Pawhuska, Oklahoma.—Carter Oil Company et al's Osage 7, CNE NE NE Section 10-25n-6e, in the new South Burbank pool of Osage County, encountered top of the Bartlesville sand at 2714 feet, had first oil at 2734 feet, and at 2789 feet flowed 1808 barrels in 24 hours. The same operators have made location for Osage 2, CNW NW NW Section 11-25n-6e, and for Osage 2, SW Section 2-25n-6e. During May, 1934, the pool, with 33 producing wells, was second in the list of new Oklahoma pools with a total production of 137,236 barrels or 4426 barrels per day.

Noble County

Perry, Oklahoma. — Sinclair Prairie Oil Company has staked location for L. B. Smith 1, CSW SE NE Section 28-22n-2w, a quarter-mile north of The Texas Company et al's Voss 1, discovery well in the Polo area of western Noble County. Rumor has it that the next location in the area will be made by the community owners on the V. De Beard farm in NW NW SW Section 27-22n-2w, slightly over a quarter-mile northeast of the discovery well which is still shut in awaiting connections. An 11-mile six-inch welded line is being built into the area from Lucien by Stanolind Pipe Line Company.

Guthrie, Oklahoma. — W. N. Anthony et al were drilling below 4693 feet after topping dry Bartlesville sand at 4680 feet in Fruin 1, CSE SE SW Section 4-16n-1e, seven miles southeast of Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Fouts 1, discovery well in the Langston pool. This well produced 772 barrels during May, 1934, a daily average of 228 barrels of high gravity oil.

Cherokee, Oklahoma. — Tex-O-Kan Development Company's Acre 1, CSW NE Section 14-24n-11w, 26 miles northwest of Enid and 43 miles in the same direction from the Garber pool, was cleaned out during the week to the old total depth of 6460 feet and had resumed drilling. This test has been under way since September, 1929, when it was spudded by Washoma Oil Company. In December, 1929, J. V. Bailey et al took over operations and subsequently the test became known as Tex-O-Kan Development Company when a re-organization took place. At one time it swabbed 70 barrels of oil at 6255 feet either from lower Pennsylvanian or Upper Simpson formation.

Oklahoma Completions Have Larger Initial Average

Tulsa.—From an initial production standpoint development in Oklahoma during the week was slightly more successful than usual when 32 oil wells yielded 32,572 barrels. Reports include one abandoned rig and 12 dry holes, a total of 45 completions compared to 39 first reports. This is the first time in many months that initial production has reached this point without the aid of large wells in the Oklahoma City pool. One well in the Crescent pool of Logan County and two wells in the Lucien pool of Noble County, accounted for a total of 24,626 barrels compared to 1205 barrels from two wells in the Oklahoma City pool.

Completions, which are shown in the following tabulation, involved 120,871 feet of drilling, including 847 feet in six old wells drilled deeper:

Company, Well and Location	Init. Prod. Bbls.	Depth
ATOKA COUNTY—		
Texas-Okla. O&G Co., Cole Estate 1, ne ne nw 19-2s-14e	*	638
CARTER COUNTY—		
Carter Oil, Krieger 2, nwc se 8-2s-2w	62	2189
Simpson Fell, May Walker 9, sw sw nw 10-4s-2w	*	rig abd
CREEK COUNTY—		
Merritt et al's Williams 6, se sw ne 27-18n-8e	10	2580
Commercial Drilling Co., McArthur 2, se ne sw 5-19n-8e	15	2050
Sinclair Prairie, Henderson 4, sw ne nw 11-14n-8e (owdd)	*	2920
Magnolia Pet. Co.'s Street 5, sw sw ne 3-17n-8e	185	1389
Bay States, Dix 5, nw sw sw 34-18n-8e	125	2703
GARFIELD COUNTY—		
Sinclair Prairie, Hartley 56, sw sw nw 18-22n-3w (owdd)	*	1460
Sinclair Prairie 16, ne se nw 19-22n-3w (owdd)	100	1492
HUGHES COUNTY—		
Scruggs, Black 1, ne ne ne 13-9n-10e	*	3929
JEFFERSON COUNTY—		
O. V. Beck, C. Seay 3, sw se nw se 34-6s-5w	47	1586
Farlyn Oil Co., Seay 18, se se nw se 3-7s-5w	50	1244
KAY COUNTY—		
Argo O&G., Freize 1, sw ne nw 30-25n-1w	57	4330
LINCOLN COUNTY—		
Coline Oil, Telford 3, se ne se 7-14n-4e	180	5015
LOGAN COUNTY—		
Carter & Gypsy, Huron 2, cne ne 28-17n-4w	¶10-9678	6313
MARSHALL COUNTY—		
Centrop Oil, Burge 4, sw ne se 25-7s-5e	33	535
Russell Wham Dev., Inc., Setliff 1, se se sw 36-5s-6e (owdd)	*	1306
NOBLE COUNTY—		
Carter Oil, Tate 2, cse nw 29-20n-2w	¶7½-7216	5175
Shell Community, Miller 2, cne se 18-20n-2w	¶4¾-7732	5211
OKFUSKEE COUNTY—		
Smith, Wilson 5, nw sw ne 26-11n-11e	40	2059
OKLAHOMA COUNTY—		
H. E. Rapp et al, Price 1, ce/1 ne 19-14n-3w (owdd)	70	6748
Carl Larkin, Goodwin 1, se se se nw 22-11n-3w	717	6539
Anderson & Kerr, Harris 1, ne nw se 22-11n-3w	488	6525
OKMULGEE COUNTY—		
Bingman & Colton, Teal 1A, se ne se 25-14n-11e	*	2820
Bryan, Roberts 1A, se nw sw 29-15n-14e	25	2352
OSAGE COUNTY—		
J. R. Higgins 1, sw sw se 25-21n-10e	*	2242
Continental Oil, Alexander 1, nwc sw 33-26n-6e	*	3004
Lewis Prod. Co., Osage 1, ne ne sw 28-24n-7e	425	2642
Lewis Production Co., 5B, nw ne nw 21-24n-7e	250	2730
R. J. Barritt Estate 2, swc ne 16-23n-9e	*	2296
Champlin Refining Co., 16, ne sw se 16-24n-7e	328	2678
PAWNEE COUNTY—		
O. H. P. Thomas, Lot 20, Block 72, No. 1, nw nw se 25-20n-9e	100	2000
PONTOTOC COUNTY—		
Manahan, Norris 1, nw se se 13-2n-6e	*	5166
Los Angeles Pet., Feat 1, nec se 36-5n-4e	115	2200
POTTAWATOMIE COUNTY—		
Amerada, Grove 1, sw sw ne 5-6n-5e	1059	4180
Empire, Billington 1, swc sw 31-7n-5e	1166	4183
Elber, Wyatt 2, sw nw nw 10-7n-4e (owdd)	250	3803
Inland, Brandenburg 1, sec nw 9-7n-4e	1560	3785
Mid-Continent, Upton 3, sw ne ne 1-6n-4e	236	4171
SEMINOLE COUNTY—		
Carter et al, Hodges 1, ne sw se 16-9n-6e	110	3579
Sinclair Prairie, Spencer 2, se sw se 13-9n-6e	58	4062
TULSA COUNTY—		
C. Armstrong, Squire 4, se nw se 8-16n-14e	85	1552
Buckler, Bertholf 1, cw/1 nw sw 8-16n-13e	*	2772
WAGONER COUNTY—		
Sands Pet., Lovett 1, ne nw se 22-17n-16e	*	1600

*Failures; †Junked; ¶Million cu. ft. gas.

Sedgwick County

Wichita, Kansas.—Cellar and ponds were being dug during the week for Tracy et al's William Mueller, Jr. 1, NE NE NW Section 35-29s-4w, a wildcat test 35 miles southwest of Wichita and less than a half-mile north of the town of Anness in southwestern Sedgwick County. The 2300-acre block assembled by Tracy and Smith is reported to have been core drilled. It is said to lie about mid-way between the Bluff City and Abilene arches. Leases around the block are held by major companies.

Rice County Well Gauges 1113 Barrels on Test

Wichita, Kansas. — Continental Oil Company's Lansing 1, CNW NW SE Section 25-18s-8w, discovery well six miles from production in northern Rice County, pumped 1113 barrels on a 24-hour potential gauge with no water showing. Production is coming from Arbuckle (Siliceous) limestone at 3132 to 3172 feet. Considerable importance is attached to this discovery due to the fact that it penetrated 40 feet of limestone without encountering water. This is considerably greater than the average saturated thickness of this formation in the various pools of the county.

Chase Townsite

E. F. Jones et al were building rotary derrick for Townsite 3, NW SE SE Section 31-19s-9w, adjacent to the right-of-way of the Santa Fe railroad. To the southwest of the Townsite, Empire Oil & Refining Company was drilling below 3253 feet and carrying 6⅝-inch casing in Proffitt 1, CNW SE SE Section 6-20s-9w. Kansas City limestone was logged from 2940 to 3225 feet and top of the Conglomerate at 3242 feet. Operators were having difficulty with caving hole.

Chindberg Area

Vernon Oil & Gas Company's No. 1, CSE NW NE Section 13-19s-3w, in the Chindberg area of McPherson County, topped chat horizon at 2945 feet, had first gas at 2980 feet, and gauged 21,750,000 cubic feet at 2980 feet after having increases at 2958 and 2967 feet. Casinghead pressure was 850 pounds. The well was killed with a string of 6⅝-inch casing and drilled to 3013 feet, encountering top of the oil pay at 3003 feet. It made one flow and then refilled in one hour, being estimated good for 500 barrels daily on the pump. Pumping equipment was being installed.

Robbins Extension

In the much drilled area south of Wichita in Sedgwick County, Dickey Oil Company's Nolan 2, CNE NE NE Section 20-28s-1e, set 6⅝-inch casing on top of the Chat horizon at 3071 feet and drilled to 3111 feet, where it made 34 barrels the first hour. Subsequently it produced 332 barrels of 44 gravity oil in 12 hours. It is a diagonal southwest offset to E. B. Shawver's Brookings 1, which came in several weeks ago flowing at the rate of 400 barrels per day. Drilling was done with a light combination rotary-cable tool outfit. From the time the well was spudded until oil started flowing into the tanks only 20 days elapsed despite some unavoidable delays. The same operator has announced location and is starting work on a west offset. Drilling will be done with the same rig.

Operators of Public Land Confidence Game Warned

Washington, D. C.—Officials of the General Land Office this week took vigorous steps to stamp out a confidence game which is being worked in connection with oil on public lands, as a result of the receipt of complaints that representatives of various "associations" are "selling" a plan under which it is represented that for a fee of $2 or $2.50 per acre these organizations will file an application for oil and gas prospecting permits.

In a general warning to the public, the Land Office points out that applications for permits must be filed with the local land offices, and that no association or individual has been authorized to carry on operations of this character. The only payment the federal government requires for a permit is a filing fee of $32 for 2560 acres, the maximum acreage allowed by law, or a lesser amount, the minimum being $10, for a smaller area.

While a permit to prospect 2560 acres may be obtained from the government for $32, the fee requested by the "associations" would run to more than $5000 for the same acreage.

As the organizations working this racket do not represent themselves as government agents, it is not believed the Interior Department can directly prosecute them, but the Post Office Department will probably be asked to take over any cases that may involve the use of the mails.

Stanolind Buys East Texas Properties

Tyler.—Stanolind Oil & Gas Company, producing subsidiary of Standard Oil Company (Indiana), has purchased from H. L. Hunt Production Company of Tyler, Texas, a 111-acre property in Rusk County, East Texas, containing 18 producing oil wells.

From Devonian Oil Company of Tulsa, Oklahoma, Stanolind has also just acquired two propertiees in Gregg and Rusk Counties, East Texas, embracing 167 acres and containing 17 producing wells and a half-interest in an 83-acre property in Rusk County containing eight wells.

Allowable production from these new Stanolind Oil & Gas Company properties under present proration regulations is 1600 barrels a day.

Kansas Completes More Wells Than Are Started

Wichita, Kansas. — Completions in Kansas again exceeded first reports when scouts reported 21 oil wells with total initial production of 10,227 barrels, four abandoned locations, and six dry holes, a total of 31 compared to 20 first reports.

The 31 completions involved 74,049 feet of drilling which included 151 feet in two old wells drilled deeper.

Reports of the week are shown below:

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Rush Oil Co., Ott 1, cse se 16-19s-14w (owdd)	*	3705½
C. L. Price Erlick 1, nwc se 10-16s-13w	*	abd loc
Stanolind Oil, Houser 3, cne ne 16-20s-11w	708	3299
BUTLER COUNTY—		
Cosmic Oil, Loomis 1, nw sw nw 15-27s-4e	32	2008
Empire, Gussman 17, nw ne ne 18-26s-5e	*	1989
ELK COUNTY—		
Lerke, Mason 1, cwl e/2 ne ne 5-31s-10e	*	1661
ELLIS COUNTY—		
Davis, Weiland 2B, ne nw ne 1-13s-16w	228	3277
GREENWOOD COUNTY—		
Cooper, Errickman 1, cne se sw 17-24s-13e	176	1602
Tidal Oil, Hull 33, nw se ne 2-26s-8e	15	2437
Taylor, Wilson 1, se ne se 5-28s-10e	*	abd loc
HARVEY COUNTY—		
Derby Oil, Hiebert 1, ne sw se 5-28s-3w	117	3550
Empire Oil, Fraese 2, ne se se 7-22s-3w	227	3560
Sinclair Prairie, Schroeder 2A, se nw se 5-22s-3w	421	3529
KINGMAN COUNTY—		
Kessler Pet., Bollinger 1, sw nw sw 12-28s-5w	*	4226
Skelly, N. Ratcliff 3, sw sw sw 19-27s-10w	305	3492
McPHERSON COUNTY—		
Continental Oil, Garber 1, nec nw 32-21s-1w	870	3298
Derby Oil, Hamm 4, se sw ne 33-21s-3w	707	3453
Kanoka, Griffin 4, ce/2 w/2 sw 14-19s-2w	786	3378
Lario Oil, Lagree 2, se se nw 31-19s-1w (owdd)	10	3455
Mabee, Nickel 8B, ne nw se 33-21s-3w	1609	3475
McBride, Griffin 7, cw/2 e/2 sw 14-19s-2w	628	3383
Shell Pet., Finkle 3, nw ne nw 23-19s-2w	225	3383
RENO COUNTY—		
Barnsdall, Sabin 1, nec ne 11-23s-4w	1154	3615
Olson Oil, Roberts 3, cnw sw 25-23s-4w	347	3374
RICE COUNTY—		
Gypsy Oil, W. H. Malone 4, nec nw 18-20s-9w	218	3323
Ramsey, School Land 2, ne sw nw 32-19s-9w	239	3268
RUSSELL COUNTY—		
Empire, Bender "A" 1A, nw ne ne 26-15s-14w	335	3349
Muth, Krug 1, ne sec 9-12s-13w		abd loc
Muth Bros., Mills 1, swc sw 10-14s-15w		abd loc
SEDGWICK COUNTY—		
Sovereign Oil, Nichols 1, nw nw sw 1-26s-1w	*	365
WOODSON COUNTY—		
Sheedy 1, nw nw ne 34-25s-14e	*	1604

*Failures; †Junked; ¶Million cu. ft. gas.

Cayuga Field Extended Mile West by Gas Well

Palestine, Texas.—The first gas producer for the Cayuga field, northwestern Anderson County, was completed last week when Roeser-Pendleton, Inc.'s V. W. Boyer 1, E. Ritter Survey, proved capable of more than 20,000,000 cubic feet of wet gas daily from lower Woodbine at 4082 feet. This test is about 7000 feet west of nearest production, and cased off the main gas producing horizon by cementing five-inch pipe at 4072 feet in an effort to develop an oil producer from the oil saturated sand recovered from cores. The log of the well proved it to be high on structure in drilling through the Austin chalk at 3437 feet and other key formations above, but encountered an unusually thick section of Eagleford shale above the Woodbine, tentatively called at 3931 feet and definitely at 3980 feet. It has an elevation of 315 feet.

Although completed for the time being as a gasser, Bowyer 1, may be deepened, according to the owners, as it is believed to be 20 or 30 feet above the water level. Tide Water Oil Company and Texas-Seaboard Oil Company, discoverers of the field, have moved in materials to drill N. N. Wills 1-C, an east offset, and if drilled it will be carried to the water level should it become necessary to make an oil producer.

Cayuga operators are withholding judgment on the final outcome of Barnsdall Oil Company's J. D. Loper 1, NWc 103.02-acre tract, James Wilson Survey, in regard to its chances for production until an accurately measured and vertical hole is drilled to the Woodbine sand. This southeast outpost test for the field recently cored salt water sand at 4069-4073 feet and after coring to 4086 feet, or 3791 feet below sea level, plugged back to 2440 feet to correct crooked hole. Reports indicate that the hole showed a maximum drift of 23 degrees from vertical when surveyed. The discovery companies' E. L. Harton 1, a west offset to the above test, gauged 122 barrels oil in 24 hours on ⅛-inch choke when completed recently at 4078 feet, with casing cemented in the sand at 4072 feet.

New Wells to Be Drilled in Rusk Area

Palestine, Texas.—Two direct offsets to the discovery well of the Rusk pool, Cherokee County, have been ordered drilled immediately by T. J. Wood et al as result of their first well on fee land of the New Birmingham Development Company, Levi Jordan Survey, having resumed making salt water. Temporary relief from bottomhole water was attained by plugging back from 5137 feet to set whipstock and re-drill the Woodbine sand, which is reputed to have been logged at 5121-5124 feet by the new hole. However, a varied assortment of depths have been given out by the group holding an interest in the well and drilling block.

The Rusk area discovery well was restored to production June 28 after completing the work-over job, and made pipe line oil for several days when restricted to chokes of three-quarters-inch size and smaller. The oil flow was rated at about 65 barrels hourly on the larger choke, with a well balanced gas-oil ratio. Salt water again broke in on the second day when oil and gas withdrawals were stepped up. Production ranged from 550 to 600 barrels of fluid daily late last week, with the volume of b.s.&w. reported as varying from six to 10 percent, depending upon the size of choke in use.

Location for New Birmingham 2 was made 660 feet west and 300 feet south of the producer, while the other is slated to be drilled 660 feet north and 330 feet east of the completed well.

Until more wells are completed in the area a shadow of doubt will remain as to the importance of this new oil strike for the south end of the Woodbine sand belt in East Texas. An aggressive development program proposed for the area by close in lease owners has been deferred, although it is generally conceded that the first well has all the ear marks of a big producer in spite of the poor completion job.

Walter L. Goldston et al are credited with having contracted to start a test immediately about 2½ miles south of the Rusk area producer on an 80-acre lease on the north end of the Southern Pine Lumber Company's 320-acre tract, N. Newton Survey, involving a bonus of $500 per acre, payable from production.

C. & G. Oil Company and Magnolia Petroleum Company's New Birmingham Development Company 1, J. F. Timmons Survey, located about 1½ miles southeast of Rusk and seven miles northeast of the producer, was drilling in chalk below 4990 feet. This wildcat logged Pecan chalk at 3884-4248 feet, and first Austin chalk at 4800 feet, with an elevation of 493 feet, or 486 feet. Correlation of the logs of the two holes on the above markers reveals a higher structural position for the drilling test, but this is largely offset by a normal regional rise. The verdict on the test near the town of Rusk is expected to be determined over the weekend.

Six Completions in East Texas Fail to Flow

Tyler, Texas.—The forecasted decline in completions for the East Texas field was fulfilled last week when operators reported only 88 flowing and pumping wells, as compared to 101 the previous week when a record for the present year was established. Further declines are due because of the Texas Railroad Commission having tightened up on its policy of issuing permits to drill on densely drilled leases since last May 29.

More than a half dozen of the new wells added last week lacked ability to flow natural, and require pumping equipment to make their proration allowable. The majority were spotted in the low pressure section of the original Joiner area, Rusk County, and two were in the north portion of the field. Joe Long Drilling Company's W. W. Owens 2-C, located on the west edge of 72-acre lease, C. P. Herford Survey, Gregg County, added more productive territory on the east flank with an initial output of 5 barrels oil per hour on pump from broken sand at 3631-3670 feet. It has an elevation of 369 feet.

Three wildcats in two East Texas border counties were abandoned as failures last week. Two of the tests were in Marion County and the third was in Shelby County. The latter was a salt water hole which was treated with chemicals without positive results.

Detailed list of completions in the

East Texas field for the past week follows:

Company, Well and Location	Init. Prod Bbls.	Depth
JOINER AREA—		
R. B. Bryant et al, Ras Redwine 3 (5-ac)	240	3581
Combined Oil Int., G. W. Eaton 24 (125-ac)	10,000	3748
J. M. Davenport et al, Bradford 1-A	300	3620
Harrell & Tillery, T. O. Jackson 1	5600	3767
Haynes Oil Corp., J. T. Brown 8 (40-ac)	4000	3717
Humble, First Nat'l Bank 8 (50-ac)	11,000	3710
Kangerga Bros. 43-A (330-ac)	6500	3708
R. E. L. Silvey 37-A (240-ac)	9200	3730
M. C. Thompson 9 (126½-ac)	9000	3623
J. W. Turner 24 (400.22-ac)	8500	3758
Virginia Turner 12-A (126.26-ac)	9400	3759
A. R. Wooley 5 (41-ac)	9200	3683
D. L. Johnson & Olson Bros., Inc., Powers 12 (131-ac)	12,000	3676
C. M. "Dad" Joiner (H. L. Hunt), Bradford 11-B (100-ac)	350	3664
Magnolia, A. K. Perkins-Falcon 8 (77.06-ac)	5100	3676
Ras Pool-Eastex 2-B (20-ac)	5000	3755
Massad et al, A. E. Cansler-Cooper 1 (1-ac)	5400	3768
J. W. McCulloch et al, M. L. Thompson-Truitt 1 (1-ac)	5500	3810
R. J. McMurrey Corp., Robinson 5 (143-ac)	7200	3819
Miller Prod. Corp., Bradford 10 (34-ac)	4500	3635
Octo Oil Corp., E. B. Alford 3-B (10-ac)	500	3695
Overton Ref. Co., S. & M. Clay 6 (65-ac)	3600	3619
Pansy Oil Co., Frederick 4	350	3650
Rocky Mountain Oil Co. (H. T. Smith), Cook 2 (10-ac)	5600	3775
The Saco Corp., E. B. Alford 2-B (4-ac)	400	3714
B. H. Rogers et al, H. C. Maxwell 7 (26-ac)	7200	3756
Sinclair Prairie, A. S. Jarvis 27-A (264.44-ac)	8400	3682
F. B. Wilson 11 (124-ac)	9600	3662
Lenora Sneed et al, Salem Church Lot 2 (2-ac)	9200	3769
Sun Oil Co., O. W. Knight 17 (273-ac)	8500	3635
The Texas Co., W. W. Henry 20 (229½-ac)	5200	3672
Ward Oil Corp., J. M. Finney 12 (26.61-ac)	6000	3718
J. S. Wheelis, Jr., et al, I. J. Smith-Gulf 8 (101.7-ac)	8600	3690
KILGORE AREA—		
Ben G. Barnett et al I&GN Ry. Co. 4, Tr. No. 3	7000	3794
Big Four Oil Co., I. A. Adkins 4 (8-ac)	9400	3709
Herman Brown et al, W. A. Southworth 3-A	7500	3556
DeArman & L. O. McMillan, W. Roberson-Shell 7 (100-ac)	5200	3684
C. A. Everts Drlg. Co., V. H. Beasley 2 (22-ac)	700	3837
G. Muckelroy 2 (16-ac)	7800	3577
L. O. Gandy et al (was J. H. Turner), I. Benson 2 (4-ac)	9400	3627
Gulf Prod. Co., R. C. Alexander 19 (209-ac)	7000	3548
W. Florence 15 (165.09-ac)	7500	3677
S. Hilburn 57 (269.74-ac)	8400	3593
M. E. Peterson 12 (205-ac)	5800	3635
W. G. Sexton 11, Tr. No. 2 (165.58-ac)	9000	3669
Houston Prod. Co., W. P. Brightwell 3 (18-ac)	8800	3597
Humble, L. D. Crim 124 (906.98-ac)	8000	3670
Invincible Oil Co., Weiss-Elder 20	11,000	3540
R. E. Massingill et al, J. M. Mayfield 2	2000	3680
Max Rubin et al, J. F. Horton 1 (103-ac)	325	3555
Salmon Oil Co., Martin-Atlantic 5 (25-ac)	9000	3690
M. G. Scheble, Rec., Sabine River 6-Q, Tr. No. 6	7000	3553
Shell Pet. Corp., N. Jobe 9 (60-ac)	7500	3568
E. W. Willoughby 11 (57-ac)	7000	3608
Sinclair Prairie M. Kennedy 7-B (52-ac)	4000	3710
Sun Oil Co., J. R. Beall 15 (180-ac)	9000	3641
J. S. Elder 8 (75-ac)	8600	3570
The Texas Co., W. Baxter 9 (96-ac)	5800	3691
Tide Water Oil Co., H. P. Leverett 14 (109.44-ac)	9600	3700
M. K. Towns et al, G. Davis 2-A (10-ac)	5000	3625
LONGVIEW AREA—		
Almeda Oil Corp., R. P. Doby 2-B	6500	3749
W. D. Ambrose et al, Geo. Jones 3-B	9100	3602
Atlantic Oil Prod. Co., J. C. Judge 62 (455-ac)	9000	3530
G. A. Porter 14 (109.23-ac)	8600	3700
Atlantic-Sun Oil Co., W. Anderson 9 (83-ac)	9300	3530
California Pet. Corp., (Ven.), Mrs. I. Walker 11 (120-ac)	6800	3636
Dyck Oil Co., J. M. Christian 8 (37-ac)	8800	3636
Eastern Texas Pet. Co., D. F. Smith 7 (611-ac)	5500	3577
Empire Gas & Fuel Co., J. W. Akin 12 (100-ac)	8600	3586
Fain-McGaha Oil Corp., R. Corbin 5 (40-ac)	10,500	3578
Faith Oil Corp., O. F. Wencker 5 (14-ac)	5000	3688
Gulf Prod. Co., A. Neeley 7 (49.44-ac)	7800	3525
Humble, T. M. Armstrong 17 (155.7-ac)	9000	3608
Della Johnson 6-B (57½-ac)	9000	3611
J. M. Smith 9 (90.3-ac)	5700	3676
Humble-J. K. Wadley-J. P. Evans, E. W. Clements 8 (50-ac)	9500	3594
T. D. Humphrey et al, E. Johnson 1 (20-ac)	3000	3623
Iowa-Payne Oil Co., W. H. York 6 (42-ac)	12,000	3590
W. W. Lechner-G. E. Hubbard, W. M. Harley 5-A (18-ac)	9200	3566
Joe Long Drlg. Co., W. W. Owens 2-C (72-ac)	120	3670
C. H. Lyons et al, T. J. Dunbar 5 (75-ac)	4000	3650
T. J. Dunbar 6 (75-ac)	5600	3645
Merritt Drlg. Corp., R. W. Reed-Felsenthal 2-A	300	3705
Mudge Oil Co., J. D. Richardson 10-A (92½-ac)	10,000	3754
Peckham Oil Co., J. B. Webb 3-B (20-ac)	8600	3710
Selby O&G Co.-Lewis Prod. Co., Snavely 9-D (105-ac)	9000	3600
Shell Pet. Corp., G. W. Richey 17 (169.4-ac)	8400	3574
Standard Oil Co. (Kansas), J. W. Fuller 3 (22-ac)	3500	3665

MISCELLANEOUS COMPLETIONS

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDERSON COUNTY (Cayuga field)—		
Roeser-Pendleton, Inc., V. W. Bowyer 1	¶20	4082
Tide Water-Texas Seaboard, G. F. Robertson 1	3000	4085

WILDCAT COMPLETIONS

Company, Well and Location		Depth
UPSHUR COUNTY—		
Joe Papadakis et al, L. V. Towery 1	*	3780
WOOD COUNTY—		
D. T. Cauble & Thompson, Bobbett 1-A	*	5554
MARION COUNTY—		
Perry et al, E. B. Colgin 1, M. C. Noll sur.	*	1400
Serling & Preston, Henderson 1, R. Bennington sur.	*	3230
SHELBY COUNTY—		
C. E. Litchfield, J. H. & W. C. Windham 1, Wm. Leach sur.	†	3402

*Failures; †Junked; ¶Million cu. ft. gas.

To Enlarge Panhandle Gasoline Plant

Pampa, Texas.—Cargray Corporation, Amarillo, is preparing to enlarge the capacity of its well-pressure type absorption gasoline plant from 100,000,000 to 150,000,000 cubic feet daily. This plant is located in northeastern Carson County, and has been operating near capacity for the past nine months, using gas from nearby gas wells owned by Plains Holding Company, an affiliated concern.

Many Failures in North Texas Extension Campaign

Wichita Falls, Texas,—An aggregate of 5063 barrels of new production was added by the North Texas district last week through the completion of 26 wells. There was an equal number of failures during this period, making a total of 52 completions as compared to 54 the previous week. Field work throughout the district has been on a reduced basis for some weeks because of a prolonged drouth and shortage of water for drilling rigs.

The high percentage of failures is due to an aggressive campaign being waged by operators to extend productive limits of existing areas, and also to find new pools. This is particularly true in Archer, Wichita and Wilbarger Counties.

Two more deep oil producers for the Strawn horizon in the old K. M. A. field, southern Wichita County, are in process of completion. Deep Oil Development Company, discoverer of the deeper horizon, is cleaning out and swabbing after giving its Munger 2, Section 30, Block 14, a shot of 50 quarts of nitro in sandy lime at 3864-3899 feet, having plugged back from 4001 to 3900 feet. This well swabbed 75 barrels of high gravity oil daily when first drilled in. E. J. Stump et al's Munger 1, Lot 19, Block 25, showed for a small but commercial oil producer when treated with 1000 gallons of acid in lime formation at 3720-3809 feet, with the hole bottomed in shale at 3850 feet. It is to be deepened to the regular sandy lime pay horizon near the 3900-foot depth, although it has already indicated a half-mile extension to the southwest from the discovery well.

Search for deep production in the South Vernon district, Wilbarger County, is being conducted by Phillips Petroleum Company's W. T. Waggoner 2-N, Section 43, Block 4, H&TC Ry. Survey. This test developed a show of oil and gas in sandy lime at 3870-3872 feet, but encountered sulphur water after drilling to 3875

feet. A string of 6⅝-inch pipe was cemented at 3870 feet in expectation of making a producer. It is drilling below 3920 feet.

Completions in North Texas during the last week follow:

Company, Well and Location	Initial Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Perkins-Farmer 6, Sec. 10	*	1635
Perkins-Farmer 7, Sec. 10	250	1602
Burns & Long, L. F. Wilson 12-R, Sec. 108	250	1465
Conoco, Andrews 1	*	1080
Falls County 5-B	600	1109
Cullum & Alexander, Falls 7-A, Blk. 19	550	1098
Falls 8-A, Blk. 19	500	1110
Fain-McGaha Oil Corp., Logan 2-E	500	1170
Fain-McGaha-Humble, Logan 36	600	1167
Frazier & King, John Conner 1	*	1112
Golding & Cochran, G. B. Hamilton 1, Sec. 5	*	1187
J. T. Richardson 4, Blk. 1	*	1312
W. B. Hamilton et al, W. I. Pace 17, Blk. 99	95	1147
King Royalty Co., W. L. Andrews 1, Blk. 23	*	1108
E. B. Madden et al, J. T. Richardson 21, Blk. 1	*	1272
D. C. Nelson et al, H. S. Ford 1	*	700
Perkins-Cullum Oil Co., Falls-Tiktin 21, Blk. 12	750	1161
Falls 13-C, Blk. 6	500	1178
Petroleum Prod. Co., Richardson 2-E, Blk. 1	150	1242
Rathke Oil Co., Morrison 1, Sec. 1823	*	1035
Texas Co., Logan 2, Blk. 23	10	1161
Logan 1-B, Blk. 22	*	1350
BAYLOR COUNTY—		
S. V. White et al, W. H. Portwood 1, Sec. 1281	50	1370
CLAY COUNTY—		
Bridwell Oil Co., Saner 1	15	1115
Metzner et al, L. Thornberry 3	*	360
COOKE COUNTY—		
W. B. Hickman et al, Fee 1	*	1810
GRAYSON COUNTY—		
B. N. Barton et al, R. W. Getzendaner 1	*	769
Smith-Franklin Oil Co., E. R. O'Neal 1	*	630
JACK COUNTY—		
D. Lundien et al, J. Bloodworth 4	5	319
R. T. Nail et al, W. A. Peterson 1, Blk. 2	*	662
E. J. McCurdy et al, C. C. Henderson 1	*	359
MONTAGUE COUNTY—		
Texas Co., R. W. Cunningham 5-B	30	917
R. W. Cunningham 6-B	45	929
WICHITA COUNTY—		
F. C. Baldwin & Bros., Langford 18-B	*	520
Bauer & Reed, G. W. Hefley 1	*	650
G. W. Cooper et al, Fisher 2	*	974
J. E. Keller et al, J. D. Greer 1	3	685
McKinney 1	2	808
Mogren & Anderson, E. E. Goetze 33	15	930
Pet. Producers Co., Allen-Kemp 37	45	1492
Reno Oil Co-Pet. Prod. Co., Waggoner 3-B	*	956
Staniforth & Ray, Waggoner Bros. 1	5	1828
WILBARGER COUNTY—		
S. J. Lynch et al, J. Jokel 1	*	2225
J. H. Massie et al, Waggoner 1-A, Sec. 21	*	2325
Webb & Green, R. L. Castleberry 1	*	2850
A. B. Wharton, Jr., et al, Waggoner 1-A	55	1899
YOUNG COUNTY—		
Bullington et al, J. L. Boone 9, Sec. 1	13	506
S. D. Glover et al, C. W. Johnson 12, Blk. 9	*	730
Ola Malloney et al, T. Harmon 1	*	670
Petroleum Prod. Co., D. W. Whitt 4, Sec. 160	15	1039
Wooten & Reed, E. C. Reed 1, Sec. 1911	10	566
Tebay & Leberman, W. C. Leberman 2, Sec. 154	*	1035

*Failures; †Junked; ¶Million cu. ft. gas.

Western Wheeler County Well Makes Record Flow

Pampa, Texas. — Western Wheeler County section of the Texas Panhandle contributed its record producer and largest for the district in some years, when Christie-Hickman Drilling Company, Wichita Falls, developed a natural flow of 265 barrels of high gravity pipe line oil per hour in completing T. J. D'Spain 2, SEc E½ SW Section 52, Block 24, in granite wash and shattered granite at 2315-2477 feet. Because of the prolific flow of this well it will likely be permitted to forego the usual five-day potential gauge taken on all wells in the district to establish proration allowances.

This big well is a north offset to Smith Brothers Refining Company's R. L. Harlan 1, which averaged 1587 barrels daily on five-day proration gauge last May from granite wash at 2465-2471 feet, thereby earning an allowable of 279 barrels daily. The heavy producer on the D'Spain land encountered about 7,000,000 cubic feet of dry gas at 2315-2325 feet, and gauged 40 barrels of oil per hour at 2365 feet. A 24,000,000-foot flow of gas followed at 2455 feet, and the best oil pay was found at 2460-2477 feet. The unusually large flow of gas between the producing horizons probably accounts for the well's spectacular performance.

Bell Oil & Gas Company, Tulsa, has completed its third big well on the D'Spain 160-acre lease. This company's D'Spain 3, SEc NW Section 52, Block 24, gauged 1280 barrels on first day and 1260 barrels the second day from granite wash and lime after being shot with 80 quarts of nitro at 2330-2362 feet. It is a west offset to Oklahoma State Company's D'Spain 1, which was reported last week as a failure after drilling into salt water at 2595-2650 feet, with an elevation of 2537 feet. Disappointments are not unusual in this area, although only a small percentage of the tests have failed to make commercial oil producers.

More failures were in prospect last week around the big oil producer completed in Eastern Gray County last May by Vulcan Petroleum Corporation's Kinard 1, which earned an initial rating of 2500 barrels oil, plus salt water, at 2378 feet. Offsets to the west and northwest have previously been reported as failing to yield oil after drilling into hard granite. Vulcan Petroleum Corporation's Massey 1, SWc Section 41, Block 25, and a north offset to the company's big well, cased off dry gas production at 2202 feet, but had only minor showings of oil in drilling to 2270 feet. Ben Golding et al's Massey 1, a northeast diagonal offset to Kinard 1, also had failed to show for an oil producer after drilling below 2300 feet, having cased off big gas at 2240 feet. A. M. Hendrix et al's A. R. Evans 1, near NEc Section 60 and about one mile northeast of the above activity, has been completed as a 4,000,000 cubic foot dry gasser at 2475 feet after encountering only small oil showings in granite wash at 2235-2260 feet and 2380-2385 feet.

The projected deep test for Northeastern Moore County by Phillips Petroleum Company et al's Jas. C. Wilson 2, C SE Section 157, Block 3-T, T&NO Ry. Survey, was reaming hole last week at 3315 feet, having mudded off big gas production found near the 3100-foot level in this area. Plans are to set 10-inch pipe shortly, as some trouble is being experienced with cavings.

The Panhandle contributed 10 wells during the past week, with a combined initial rating of 9155 barrels daily. The list of completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Anderson & Bean, R. B. Thompson 3	150	3277
Dixon Creek O&R Co., D. W. Carey 1	85	3294
Empire G&F Co., W. C. Archer 3-C	230	3220
Sinclair Prairie, P. A. Worley 1	70	3254
Skelly Oil Co., W. C. Heaston 6	160	3310
J. F. Vicars 12	290	3282
L. H. Webb 8-A	260	2387
WHEELER COUNTY—		
Bell O&G Co., T. J. D'Spain-Shell 3	1280	2362
Christie-Hickman Drlg. Co., T. J. D'Spain 1	6300	2477
Texas Co., J. S. Carwile 1	330	2510

*Failures; †Junked; ¶Million cu. ft. gas.

Central Texas Failures Double Producer List

Ranger, Texas. — Completion reports covering West Central Texas for the past week revealed twice as many failures as producers with a total of 18. The six oil producers accounted for a combined initial output of 500 barrels daily, and was derived from wells in Eastland, Callahan and Shackelford Counties.

Callahan County scored its best producer in some months when Ungren & Frazier's I. N. Jackson 2, S½ NW Section 20, E.T. Ry. Survey, pumped 13 bar-

rels oil per hour on initial gauge from sand at 904-924 feet. This county also contributed the deepest test for the week through the abandonment of Anzac Oil Corporation's Mary Johnson 1 in sulphur water from the Ellenberger limestone at 4320-4324 feet, having encountered some oil with salt water at 4281-4285 feet.

In Shackelford County, T. K. Simmons et al's B. C. Harvey 6, NE SW Section 6, T.&P. Ry. Survey, Block 14, flowed 120 barrels of oil during six-hour gauge from broken sand at 1648-50 feet and 1715-1725 feet, indicating a good well being in prospect when clean-out work is concluded.

Completions in West Central Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
Wm. D. Brookover et al, W. F. Curry 1	*	1340
E. O. Kothman et al, R. L. Miller 2.	*	1418
J. F. Morrissey et al, Jopling 2.....	*	1850
CALLAHAN COUNTY—		
Anzac Oil Corp., Mary Johnson 1..	*	4324
John Fehl et al, E. L. Finley 1.....	*	740
Ungren & Frazier, I. N. Jackson 2..	350	924
COLEMAN COUNTY—		
The Texas Co., Santa Anna 1st Nat'l Bank 1	*	1981
EASTLAND COUNTY—		
Gallagher & Lawson, W. A. Woods 1.	15	3100
M. K. Gates et al, L. A. Hightower 1	*	1321
Imholtz et al, Abbott 1	*	696
N. A. Moore et al, M. E. Holcomb 5	*	1613
PARKER COUNTY—		
G. E. Crump et al, S. R. Peters 1.	*	1002
SHACKELFORD COUNTY—		
Charter Oil Co., Green 1-A	15	1630
Holder et al, H. Green 1	*	460
J. L. McMurry et al, J. A. Mathews 2, sec 57	*	1150
J. A. Mathews 3, sec 57	70	806
Rhodes & Higher, Davis 5	15	1488
Roeser-Pendleton-Humble, Morris Buie 14, sec 201	35	1600

*Failures; †Junked; ¶Million cu. ft. gas.

West Texas Has Good Week on Completions

San Angelo, Texas.—An aggregate of 3625 barrels of oil and 10,000,000 cubic feet of gas production was added by West Texas last week through completion of nine oil wells and a single gasser. A dry hole in Glasscock County was also completed during the period.

An unexpected failure for the western portion of the productive area in Glasscock County was reported by Simms Oil Company in abandoning W. P. Edwards 3, SEc NE SE Section 18, Block 33, T-2-S, in sulphur water at 2313-2318 feet, with an elevation of 2550 feet. This test was trying to extend the producing area several locations to the north in compliance with lease contract, and proved to be about 100 feet lower structurally with no saturated lime to justify acid treating.

The district added a gasser when C. C. Duffy et al's S. S. Owens-Llano 1, Section 24, Block 5, Grand Falls district, Ward County, failed to retrieve two strings of tools lost at 2132 feet while carrying a flow of 10,000,000 cubic feet of dry gas production. A second test has been started on this lease.

Completions in West Texas during the past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
CONCHO COUNTY—		
Mintex Oil Co., Sam Waring 2....	*	2730
ECTOR COUNTY—		
Shell, E. J. Jones 2	515	3689
GLASSCOCK COUNTY—		
Conoco & Group No. 1 Oil Corp., W. R. Settles 9	550	2390
LOVING COUNTY—		
California Co., Reagan-McElvain 8.	110	4245
RUNNELS COUNTY—		
Art Tucker-Lou Ladd et al, R. M. McMillan 5 1000		2505
UPTON COUNTY—		
TP Coal & Oil Co., A. A. Reese 2..	190	2619
WARD COUNTY—		
California Co., B. D. Durgin 3.....	330	2539
J. F. York 8	300	2524
C. C. Duffy et al, S. S. Owen-Llano 1	¶10	2132
Tex-Mex Pet. Corp., S. S. Owens-Shell 3-B	565	3040
WINKLER COUNTY—		
Sinclair Prairie, W. F. Scarborough 2-C (6.1-ac)	65	3027

*Failures; †Junked; ¶Million cu. ft. gas.

Schleicher Wildcat Gas Flow Increases

San Angelo, Texas.—Natural gas production from John M. Cooper et al's Bert Page 1, Schleicher County wildcat, increased from 4,000,000 cubic feet to 6,000,000 cubic feet daily when the test was given a shot of 270 quarts of nitro in Bend lime at 5425-5461 feet. It drilled into salt water at 5591 feet and plugged back to 5573 feet prior to being shot to try and convert into an oil producer, as a trace of oil has been reported since deepening below 5400 feet. This wildcat is located near the center of the NW¼ Section 40, Block "L", GH&SA Ry. Survey, about nine miles southeast of El Dorado. Plans are to resort to acid treatment as a final effort to make an oil producer, and if unsuccessful it will be carried to its contracted depth of 6500 feet, or to oil, gas or water in the Ellenberger lime member of the Ordovician.

Operations on two other interesting wildcat projects in West Texas were temporarily halted late last week. In northwestern Ector County, C. J. Davidson et al's H. E. Cummins-Empire 1 shut down at 4509 feet with hole full of 29 gravity oil awaiting decision of owners as to whether the test will be drilled to sulphur water in the lime, or avoid the plugging back expense and shoot at the present depth. A commercial producer and the start of a new oil area has been established. In northeastern Andrews County, Humble Oil & Refining Company's R. M. Means 1, NEc Section 2, Block A-35, is preparing to cement 6⅝-inch pipe at 4082 feet, present depth, after cementing off a high pressure dry gas flow passed up at 2957 feet. Extra precaution has been taken by the company to handle high-pressure production with its rotary rig should same materialize as forecasted within the next 200 feet. It has an elevation of 3166 feet, with the top of the white lime tentatively called at 3935 feet.

The Grand Falls district, Ward County, continues to retain its position as one of the most active drilling areas in West Texas, and is also one of the most profitable because of the long flowing life of the wells. A large number of proven and semi-proven locations remain to be drilled. Sid Richardson, Fort Worth operator and recent entrant, has mapped out a development program that is expected to keep two rigs running over a period, while The California Company has put four rigs to work in catching up on development of its B. D. Durgin and J. F. York leases, both 640-acres in area. New wells rated above 300 barrels initial were completed on the latter two tracts last week.

Unusually hard gray limestone and chert is retarding the progress of Gulf Production Company's J. T. McElroy 103, Upton County Ordovician lime test, and late last week the company-manned rotary crew was drilling below 10,585 feet, representing about 85 feet of new hole for the week. This test is using an average of one to one-half rock bits each day, and it requires from six to eight hours to change bits. Ordovician lime tests in the Big Lake field, site of the only Ordovician oil and gas production in the district, are now underway on the Big Lake Oil Company's University 15-C, which is drilling below 5400 feet, and Group One Oil Corporation's University 8-B, a workover. The latter failed to respond when treated with 2000 gallons of acid after plugging back from 8695 feet to 8588 feet, and has been shot with 160 quarts of nitro.

Texas Permits to Drill Continue to Run High

Austin, Texas.—Reports of new locations filed in North Texas fields, plus an increase in East Texas locations brought the total permits to drill new wells granted by the Texas Railroad Commission to 327 for the past week.

This is about double the number filed during the past two weeks, and is equivalent to the average filed for the six-week period ending June 15, which was the highest in the history of the state.

There were 137 permits for new wells in the North Texas area, with 92 in Archer County, 28 in Young, and 10 in Jack County. These permits were

an accumulation of locations filed over a period of about two weeks.

East Texas operators obtained a total of 80 permits. There were 42 in Gregg County, Rusk was second with 29, Upshur third with eight, and only one was reported in Smith County.

Some increase in operations in Southwest Texas was indicated by the filing of 30 locations scattered widely through several counties. The Gulf Coast area reported 27 new locations, most of which were in proven territory.

Activity in the Panhandle area was lower with only nine new permits granted for wells in that sector.

South Texas Completions Well Scattered Over Area

San Antonio, Texas.—New production was provided in many spots of South Texas during the past week. Until recently, field development work has been centered around the Government Wells and Greta fields. Now, several more districts have come into the play, as is reflected in the completions reported during the week. They are as follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Charles Anderson's Pendergrass 1, 1343 ft nel, 310 ft sel of 130-ac tract, H. Warnell sur	*	1815
Ogden & Reed, Riddle 1, 200 ft nel, 150 ft nwl 25-ac tract, John Maximillian sur	*	2338
Watt L. Saunders, Trustee, A. Harris et al 1, blk 436, J. Maximillian sur	*	2338
BEE COUNTY—		
United Production Co., G. A. Ray 45, W. J. Porter sur, 3850 ft el and 100 ft nl of sur, pb 3696	¶10	4550
BEXAR COUNTY—		
A. M. Blume, Louis Ridder 2, J. M. Baerrera sur, approx 2350 ft n of ry and 700 ft wl J. M. Baerrera sur No. 58	*	1630
George L. O'Neill, G. F. Niemann 1, Juan Montez sur No. 6, 650 ft nwl and 100 ft nel 45-ac tract	*	1423
Rostea & Co., J. P. Adams 1, 1050 ft wl and 6200 ft sl of M. Gotaris sur No. 5	*	717
CALDWELL COUNTY—		
H. M. Anderson et al, W. B. Perry 1, 330 ft nel and sel 27-ac lease, Gideon Pace sur	*	lcn.
Bob Keene et al, W. Ewald 1, 3150 ft nl and 1250 ft el 1134-ac tract, James George sur	*	2228
DUVAL COUNTY—		
Humble O. & R. Co., Paul White 27, sec 58	300	2363
Magnolia Pet. Co., Hahl Burch 2, sec 43	¶½-75	2257
J. R. B. Moore, W. R. Peters 1, 330 ft nl and wl sec 36	*	2525
Reynosa Oil Co., Duval County Ranch 6-D, s sw sec 362	¶½	1595
Southwest Drilling Co., Wendt 14, nw se sec 43	300	2255
The Texas Co., Duval County Ranch 11, ne se sec 362	384	2325
GOLIAD COUNTY—		
Magnolia Pet. Co., Scarborough 2, E. Talley sur	250	3641
Sun Oil Co., Scarborough 1, E. Talley sur	250	3654
LIVE OAK COUNTY—		
G. C. Potter, Jacob 1, appox 1500 ft el & 1750 ft nl, GH&H sur No. 1.	*	1600
C. L. Witherspoon, W. J. Marbach 2, 1050 ft n No. 1-A, 600 ft e wl E. Jurdin sur	*	1507
McMULLEN COUNTY—		
C. C. Shumway, Inc., Shiner Ranch 6, 2310 ft nl & 330 ft el ne sec 62	*	2077
NUECES COUNTY—		
Clymore Production Co., J. C. Ingram 1-D, Lot 7, sec 6, Peters sub No. 2	¶20-100	4795
Ingram 1-B, Blk 4, sec 9, Peters sub No. 2	¶20-100	4809
REFUGIO COUNTY—		
Floboots Oil Corp., J. M. O'Brien 2-E, Blk 10, Winfield sur	100	4380
Humble O. & R. Co., J. F. B. Heard 6, Peoples sur	75	4382
VICTORIA COUNTY—		
Humble O. & R. Co., Mitchell 1, 1051 ft nwl & nel 5000-ac tract, P. Benavides sur	*	6005
Petrol Corp., John Machalec 1, 330 ft out of s cor 125-ac tract, R. Manchola Grant, pb 2841	125	2885
WILLIAMSON COUNTY—		
McNeil Petroleum Co., Robert Streit 1, 350 ft nel & sel 100-ac tract, J. West sur	*	1925
Sarsfield Wilson, Ging 2, 400 ft wl & 1200 ft sl 80-ac tract	*	530

*Failures; †Junked; ¶Million cu. ft. gas.

Two Balcones Fault Tests Show Possibilities

San Antonio, Texas.—Balcones fault zone again came into prominence with two potential Edwards lime producers in wildcat territory. One is in Caldwell County, while the other is in Guadalupe County.

Hollifield et al's George W. Bailey 1, J. C. King survey, two miles southwest of the old Luling field and one mile northeast of the town of Kingsbury, Guadalupe County, topped Edwards lime at 2190 feet and took a three-foot core to 2193 feet, showing a fair saturation of oil and no water. It is shut down for orders. The well is in the midst of dry holes, but when considering the usual narrowness of Edwards lime production, there is still a chance of a large field. These operators hold leases on about 1600 acres in the vicinity. Several other wells drilled in the vicinity have had showings, but the lime was not porous, as was reported in this test. Elevation of the well is 465 feet.

In Caldwell County, Cargill et al's Damerau 2, D. Cooper survey, near Lockhart, is preparing to drill in, having topped Edwards lime at 2260 feet and drilling to 2262 feet, and showing saturation. Casing is set at 2220 feet. This well has an elevation of 427 feet. It is structurally 23 feet higher than any other well in the vicinity.

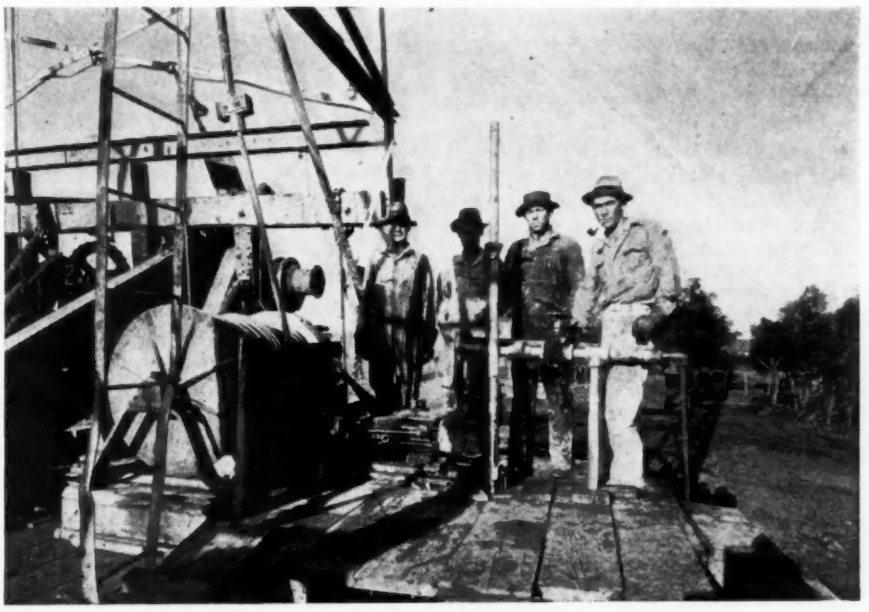
Edwards lime wells are few and far between and lots of drilling is required to develop one, but the final result is highly profitable. The three outstanding Edwards lime fields have recovered as follows:

Luling, discovered August 28, 1922; wells, 513; acres, 2150; recovery to January 1, 1934, 60,126,143 bbls; recovery per acre, 27,871 barrels.

Salt Flat, discovered May 28, 1928; wells, 233; acres, 1100; recovery to January 1, 1934, 30,250,659 barrels; recovery per acre, 27,500 barrels.

Darst Creek, discovered July 19, 1929; wells, 256; acres 1500; recovery to January 1, 1934, 29,760,571 barrels; recovery per acre, 19,840 barrels.

As can be seen by these figures showings of any consequence in Edwards lime immediately attract a flurry of lease trading and excitement.



Drilling crew on The Texas Company's Boff 1 at Manvel. From left to right: Roger Fregia, driller; L. H. Sprague, helper; L. Gruberman, helper; and Walter Hines, derrick man.

Extensive Blocking Started In Lower South Texas

San Antonio, Texas.—The Trans-Salt Dome region of the South Texas Gulf Coast is holding considerable interest due to a number of blocks being assembled for deep wells. Their importance is being further increased by the fact that both majors and large independent companies are buying protection acreage at prices ranging from $15 to $50 per acre.

San Patricio County is receiving a rather hot play in this respect, the majority of the blocking and buying being centered around several tests starting up near the Bee County line. This play is being extended across the Bee County line into the few pieces of open acreage in the general area. Marland Oil Company of Texas, Petrol Corporation, Plymouth Oil Company, Beasley and Maxwell, Heep Oil Corporation, Howeth & Swiger, Diamond Half Oil Company and Phillips Petroleum Company have wells drilling along this general trend of northern San Patricio and southern Bee County. This is a contrast of several months ago when not a single operation was reported in this district.

Into Jim Wells

The play trends southwest into Jim Wells County, where several large deals have been made during the last few days. O. W. Killam took the Wade ranch of 7000 acres with a contract to drill five wells, one of which is to be a real deep test. Larcro Gas & Petroleum Corporation originally held the ranch, developing several gas wells just below 2900 feet. Alpha Petroleum Company has taken a part of the Gallagher ranch, also in the northern part of Jim Wells County, for a deep test, likely to 6000 feet. It is a farm out from Gulf Production Company.

To the southeast and in Nueces County, is a rather active leasing play in the vicinity of Stratton pool, opened several years ago by Stanolind Oil & Gas Company. Garland Clymore has about 12,000 acres in the southwestern part of the county and is to start a 6,000-foot test by July 28. Sun Oil Company, Shell Petroleum Corporation, Mid-Continent Petroleum Corporation and others are well protected in the immediate area. The well will be on or near Section 182. Stanolind Oil & Gas Company has set 683 feet of surface casing in Stratton 2, Section 13, second test on the Stratton prospect.

In the King ranch area, royalty buying and leasing followed the showing encountered in Nutex Oil Company's King 1, Section 24. The well is at 6021 feet, but is not looking too good. It is reported flowing a large volume of gas and considerable salt water. There is a lot of open hole, however, so it still has a chance of being completed as some sort of producer.

The entire play is undoubtedly the result of several important recent strikes along the trend during the past few months. The Vanderbilt field in Jackson County, Quintana and Bonnie View areas in Refugio County, Angelita and Sinton in San Patricio County, etc., have come somewhat as warnings that most anything is likely to happen and the companies do not wish to be left out.

Line Outlet Provided For New Quintana Field

San Antonio, Texas.—Humble Oil & Refining Company and Quintana Petroleum Corporation apparently plan a rather extensive development campaign of the new Quintana field, four miles southeast of Greta, Refugio County. Humble Pipe Line Company late in the week was completing a combination four- and six-inch line from the Refugio pump station to the new well, a distance of nine miles. Upon the completion of the line, the well will be gauged.

Quintana Petroleum Company's O'Conner 1, Refugio County, was gauged July 6, and during the period from 2 a.m. to 7 a.m. flowed 23 barrels an hour through three eighths-inch choke, showing tubing pressure of 400 pounds and casing pressure of 850 pounds. A previous five-hour test showed 26 barrels per hour on slightly larger choke with 425 pounds tubing pressure and 800 pounds casing pressure.

The deal involved in the drilling of the well included the payment of 25 cents per acre by Quintana Petroleum Corporation to T. O'Conner for the right to shoot the ranch of slightly more than 37,000 acres. Upon completion of the shooting, the company had the selection of two 4000-acre blocks, paying $2.50 per acre. This made a total cash outlay of nearly $30,000 to the O'Conners. In addition, the O'Conners were to receive $2,000,000 out of one-fourth of the gross production from the block and the regular eighth land owners' royalty. The two blocks carried drilling obligations.

Quintana Petroleum Corporation turned a half working interest in the two blocks to the Humble Oil & Refining Company for a cash consideration of $50,000.

Jacob Pool Extended Half a Mile South

San Antonio, Texas.—A 3500-foot south extension was provided to the Jacob pool of McMullen County, July 6, by Stewart, Smith and Story's Jacob 1, in the John Fadden Survey No. 8. The well was swabbing considerable clean oil, when the cement gave away and water broke in from an upper horizon. The casing will be recemented. It is 3501 feet south of Texio Oil Corporation's Jacob 1, which recently added nearly a mile to the south end of the Jacob production. The new test has an elevation of 285 feet, and topped formation as follows: lignite, 265 feet; shells 834 feet; sand 840 feet; shells 841 feet; shale 842 feet; sand 845 feet; sand and streaks of shale 847; shale 860; total depth 864 feet. The casing is set at 841 feet.

Edwards Lime Test In Guadalupe Fails

San Antonio, Texas.—Another promising Edwards lime prospect in Guadalupe County was taken out of the picture July 6 when a drill stem test of Hollifield's Bailey 1, near Kingsbury, showed about 250 feet of mud, sulphur water and a trace of oil on a drill stem test. There was a little gas, but the volume was of little consequence.

The well created quite a flurry of excitement July 4 by taking a saturated core of the Edwards lime from its top at 2190 feet to 2193 feet. Lease and royalty buying was reported rather active.

Frio County Test To Be Drilled Deeper

San Antonio, Texas.—After making a small producer in the Edwards lime, Amerada Petroleum Corporation has announced its intention of carrying Halff & Oppenheimer 2, Pearsall prospect in Frio County, into the Glenrose, and possibly into the Trinity. It is now standing at 6098 feet, or 108 feet in the Edwards lime, where it is making possibly 500,000 cubic feet of gas

daily and nearly a barrel of oil an hour when bailed.

The Edwards section is not expected to be more than 1200 feet in thickness, which would take the well into the Glenrose just below 7000 feet. It will be one of the deepest wells ever drilled on the Balcones trend, two going to just below 7500 feet. They were in the Luling field.

Considerable leasing has been going on in the general vicinity, especially to the northeast of this well. Humble Oil & Refining Company and others have been active. Amerada Petroleum Corporation has a block of nearly 85,000 acres extending southwest from the town of Pearsall.

North Pettus Field Extension Is Indicated

San Antonio, Texas.—An extension of nearly a mile to the east side of the North Pettus field seemed possible late in the week with Diamond Half Oil Company's Runge National Bank 1 taking a saturated core of the top Pettus sand at 3737-44 feet. It is reaming to make a drill stem test. Elevation accounts to a degree for unusual depth.

The well is located in the northeast corner of a 142-acre tract in the G. B. Meyers survey and is slightly more than 4200 feet northeast of nearest production. It is in Goliad County. Should the well be a producer, it will lead the way to the drilling of a number of tests within the field as well as several more locations already staked on outpost sites.

Kemp Oil Company and P. H. Wilson have locations on the Weldon and Lackey land out of the J. Gomez survey, Goliad County, while Bryce McCandless is ready to start First National Bank of Beeville 1, 2700 feet east of the Diamond Half well.

Two producers were reported during the week. Magnolia Petroleum Company's Scarborough 2 was completed at 3634-41 feet, sanded up, and was recompleted for better than 10 barrels an hour. Sun Oil Company's Scarborough 1 was completed for a slightly higher initial flow from the sand at 3649-54 feet. Both are in the E. Talley survey, Goliad County.

In Bee County, United Production Company's G. A. Ray 45, W. J. Porter survey, more than a half-mile southwest of production, has been finally completed as a gasser, estimated at 10,000,000 cubic feet per day with a pressure of 800 pounds. The well drilled to 4550 feet, but plugged back to 3696 feet. Casing was set at 3671 feet. The sand was topped at 3674 feet.

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Montgomery Wildcat Seeking Cockfield

Houston. — Deering & Fraizier's Hicks 1, T. Taylor Survey of Montgomery County, took a core from 5301 to 5315 feet late last week to see if it had encountered the Cockfield, but the core proved unsuccessful. Another core is being taken. This wildcat topped the Operculina from 5283 to 5293 feet, Dibollensis at 5133, Hockleyensis from 4462 to 4484 feet and the Warreni at 3983 feet with an elevation of 217 feet. Base of the Frio was found at 3370 feet. The well is running low as compared to other wells drilled in this area.

Waller County Wildcat Abandoned

Houston.—Capps & Sloan's Vaughn 1, near San Felipe in Waller County, J. McFarland Survey, was abandoned at 2925 feet. The well was in the Frio of the lower Oligocene. This wildcat has several good showings of oil but it tested salt water at the above depth and was abandoned.

On a drill stem test from 2854 to 2924 feet the well showed 24 fourbles of blackish water through a three eighths-inch choke in 10 minutes. The Well showed no pressure.

Important Location For Chambers County

Houston.—Turnbull & Irwin are making another important wildcat location in Chambers County. The well will be known as Sudindorf 1 and is located in the H. & T. C. No. 7 Survey, center of the west line of the Sudindorf 483-acre tract. The well is east of Anahuac.

It is reported that John H. Carreker's B. Weaver 1, one mile southeast of production in the Hankamer field and in Chambers County, A. Weaver Survey, was abandoned at 2550 feet.

Largest Livingston Well Extends Field

Houston.—Between the Sun Shine area and the Livingston field of Polk County, Werby's Failing 1, A. Viesca Survey, came in at the rate of 1000 barrels per day through a three eighths-inch choke from 4342 feet. On a drill stem test from 4317 to 4342 feet the well showed 16 fourbles of oil with no salt water through a three quarters-inch choke on top and bottom in 15 minutes. This well is of noted importance as it extends the field and also opens upon a large area to be explored.

The Livingston field 1½ miles long north and south and is approximately three quarters of a mile in width east and west. The Werby well is located approximately 2300 feet northeast of the Gist well, which is making some distillate and furnishing several wells with fuel in the field, it is also 2700 feet northwest of Werby's last dry hole, it is three quarters of a mile north of the Livingston field, it is 2500 feet northwest of Engelwright's abandoned test.

This important wildcat topped the Hockleyensis at 3476 feet and the Cockfield at 4263 feet.

New Location Made in Austin County

Houston.—I. T. I. O. Company and Johnson Brothers have made location for its August Wangler 1, in the Adan Kuykendall Survey of Austin County. The abstract number is 243 and the well is located 450 feet out of the north corner of Wangler 132.2-acre tract, south of New Ulm. I. T. I. O. gave R. A. Johnson 1200 acres scattered throughout their 5500-acre block, which centers in the A. Kuykendall Survey A-243, and $6500 for this 4300-foot test to be spudded before July 15, 1934. This test will be carried further than the contract depth it is reported.

Northwest of Raccoon Bend and along the Austin and Washington County lines a 5000-acre block is being assembled, but to date there has only been 2500 acres signed. The consideration is a Cockfield well to be drilled in the area.

State Wins Title To Conroe Lands

Austin, Texas.—The State of Texas has been awarded title to 806 acres of land in the Conroe field, Montgomery County, as the result of a suit against the Foster Lumber Company and the West Production Company.

The judgment, awarded by District Judge J. D. Moore, was accepted by the defendants, which made the decision final. In awarding this judgment, the court severed from the case a similar suit against Sun Oil Company for an additional 332 acres, and this case is still on trial before a jury.

The contention of the state that the patent issued to the T. & N. O. Railway was void and therefore cancelled the patent was sustained by the court, and one of the individual claimants was awarded a preference right under the Act of 1931 to purchase the land, the state reserving title to all of the minerals for the benefit of the Permanent School Fund. This will be subject to lease under the Relinquishment Act, and the state will receive one half of all bonuses, rentals and royalties paid.

In addition to cancellation of the patent, the judgment awards the state recovery of a vacancy of 109 acres lying immediately west of T. & N. O. Survey No. 3 in Montgomery County. S. S. Prosser of Conroe was awarded a preference right to lease this strip.

Approximately 100 of the 806 acres awarded the state and development, which has been delayed by the litigation, is expected to proceed immediately, Attorney General Allred said.

There are now six producing wells on the 332 acres involved in the suit against the Sun Oil Company.

Van Overproduction Suit

Austin, Texas.—The first suit against an operator in the Van field, for overproduction has been filed in District Court here during the past week.

J. D. Wrather was enjoined from overproducing his No. 1-B G. W. Carter in the Wm. Daniel Survey in Van Zandt County. Trial of the case on its merits is expected soon.

Drilling of First Oil Well to Be Celebrated
(Continued from page 41)

nished luxuriously and equipped properly, including air conditioning. In the Drake Club will be served free refreshments, both liquid and solid.

The American Petroleum Institute Directors will hold a meeting here on the 27th of August, the date of the dedication ceremony, and Axtell J. Byles, president of the A. P. I., and a former Titusville boy will be present and will make one of the speeches at the dedicatory exercises. Governor Pinchot of Pennsylvania has promised to be present as well as Governor George White of Ohio, also a former Titusville boy.

The site of the Drake Memorial Park is less than a mile from the city of Titusville and is located in an extremely beautiful place, the natural beauty of which has been greatly enhanced by the care exercised in the selection of trees and shrubbery in the foundation planning.

The Drake Memorial Museum, which is the largest building of the group, is one of the finest small museums in the state. This will be the only museum in the world dedicated exclusively to the preservation of oil field historical data and equipment. The nucleus for the collection to be displayed in this museum is already available and has been years in the gathering.

Second Producer Is Completed at Bosco

Lake Charles, La.—The second producer for the new Bosco field of St. Landry and Acadia Parishes, Louisiana Gulf Coast, came in last Friday for an estimated flow of 35 barrels per hour. Superior Oil Company of California's U. T. Iseringhauser 1, east offset to the discovery well in Section 35-8s-3e, set a record string of 9⅝-inch casing at 7850 feet and also set liner at this depth. Information as to markers, pressures, chokes and gravity of the oil was not available at the close of the week.

This well has shown rapid progress in the last month, on June 6 the well spudded, and was completed on July 6. The company has drilled the six tests in the field without taking any cores down to approximately 7500 feet and after that depth, cores are taken every few feet.

It is now common practice to set a long string of casing on the Texas Gulf Coast. Shell Petroleum Corporation's Kratzer 1, the discovery well for the new Roanoke field set 9⅝-inch casing at 7527 feet to set a record for the area, but now Superior Oil Company's well set the same size of string at 7850 feet to break that record. In both cases the operators did not experience any trouble in landing the long string. Just recently Pure Oil Company's Yount-Lee 12, at Sweet Lake in Cameron Parish, set 10¾-inch casing at 7410 feet and they also encountered no trouble while landing the casing.

The discovery well for the Bosco field, Hernandez 1, came in for 750 barrels per day through 12/64-inch choke from sands found from 7845 to 7850 feet. Plugs were never drilled on this well as the casing was perforated with eight holes, six inches apart. The pressure on the tubing was 1360 pounds. The gravity of the oil is 36.8 degrees. The oil is coming from the Heterostegina formation. Seven-inch casing was set at 8830 feet and this was the longest string of that size casing to be landed on the coastal area. The well was drilled to 8916 feet and had approximately 13 showings of oil and gas.

The discovery well topped the Discorbis at 7629 feet, Heterostegina at 7940 feet, Marginulina at 8360 feet and was in the lower Frio (lower Oligocene) at 8916 feet. The elevation of the test is 53 feet.

This prospect was found in 1929 by Pure Oil Company using seismograph reflection instruments and it is believed the structure is large in size. The field embraces acreage in Acadia, Lafayette and St. Landry Parishes. Superior Oil Company of California subleased this property from Pure Oil Company, who had assembled approximately 6510 acres, Pure Oil Company retaining an interest. The oil is being run through pipe lines from the field to the Duson, Louisiana, loading racks and is sent to Smith's Bluff, Texas, to the refinery.

Rapid development has been shown in the past month in this new field as some of the leases expire in 1934. The company has at present five other wells drilling. The next test to be completed will be E. Mire 1, in Acadia Parish, the well was taking cores at the close of the week at 7868 feet. Richard Lovnattie 1, in Acadia Parish will also start coring this week as the well is down to 7562 feet in sand and shale. J. S. Arceneaux 1 was drilling sand at 7695 feet. Leo Kahn 1 was sidetracking at 2280 feet. M. Saveie 1 was drilling shale at 6898 feet.

Sour Lake Cockfield Well Preparing to Test

Houston.—On the southeast flank of the Sour Lake field of Hardin County, Alpha Petroleum Company's Steinberger 1, 150 feet west of the Pharr et al's Bernard 1, deep Cockfield test, was successful in cementing the hole on the second deep Cockfield well but experienced some trouble in getting the pipe out of the hole due to the heavy pressure. At the close of the week the operators were going back into the hole to take another 13-foot core.

This well topped the Vicksburg at 5460 feet, Hockleyensis at 6639 feet, Dibollensis at 6693 feet, and the Cockfield at 6818 feet, and had five feet of sand to 6823 feet where the casing was cemented. The operators have to be careful with this wildcat as there is a heavy gas pressure which might cause a blow out.

Approximately five miles north of Kountz in the G. Dorsey survey of Hardin County, Wilcox Oil & Gas Company's Sternberg 1, was drilling in shale at 4490 feet after topping the Oligocene at 3383 feet and the Discorbis at 3409 feet.

San Jacinto Wildcat Tops Geological Markers

Houston.—Five miles south of Cold Springs in San Jacinto County, Phillips Petroleum Company's Foster Lumber Compay 1, G. Taylor Survey, was drilling below 4135 feet after topping the Massilina Pratti at 3450 feet. Hockleyensis was encountered from 3530 to 3535 feet with an elevation of 289 feet. Turnbull & Irwin's Peoples State Bank 1, 4½ miles west of the Ace area and in the J. D. Martinz No. 4 Survey of San Jacinto County was drilling at 4127 feet.

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New Deep Production Is Found at New Iberia, Louisiana

Lake Charles, La.—G. D. Spell's Bernard 1 test at New Iberia, Iberia Parish, Louisiana Gulf Coast area, Section 54-12s-7e, came in late last week at the estimated rate of 1000 barrels of pipe line oil per day through a three eighths-inch choke from 3828 feet. This important well uncovered the third pay sand for the New Iberia field. The choke was reduced to a quarter-inch and the well made 720 barrels per day with a pressure of 400 pounds. The well had 23 feet of sand. Heretofore the field only had four producers and there hasn't been any oil produced there since 1930.

The field is located in Sections 51, 53, 54 and 56-12s-7e, and is on subsurface geology, showing gas seepages. The first deep production in the field was uncovered by Louisiana Oil & Gas Company's Bernard 1, Lot 7-12s-7e, January 5, 1929, when the well came in for 75 barrels of 18 gravity oil from 2631 feet. This well was the discovery well for the deepest sand previous to the G. D. Spell's Bernard 1.

The discovery well for the field was Gulf Refining Company and New Iberia Oil Company's Boliver 1, which was completed in February, 1929, for 125 barrels per day. The well had sands from 1072 to 1078 feet where the well was completed. This field is a shallow salt dome, the top of the salt is encountered around 805 feet. No cap rock is shown on this dome. The producing formations are Pliocene-Miocene sands which are found around 1900, 2631 and 3100 feet.

To date the field has had 30 wells drilled and only four have been producers, there has been 26 dry holes in this area. The deepest hole drilled previous to the discovery well for the third deep sand was drilled by Houston Oil Company to 4000 feet. There has been very little area proven in the New Iberia area. From 1917 to 1920 inclusive, the field only produced 68,000 barrels of oil from the shallow sands found at 1078 feet. There was no production until 1929 to 1930, then the field produced 4000 barrels from the deep sands. The field to date has produced approximately 72,347 barrels of oil. Gulf Refining Company and Humble Oil & Refining Company are the biggest holders of acreage in the vicinity of the well.

This newly uncovered sand for the field will no doubt start a deep drilling program for the area. There are several new locations made in the field and it is reported that upon the completion of this well the operators will move the rig over and drill one of the abandoned wells deeper.

Producer Completed In Liberty Field

Houston.—In the Cleveland field of Liberty County, Gulf Production Company's Kirby C-2, J. Pleasant Survey, came in at the rate of 800 barrels of fluid, 60 percent salt and wash water from 5890 feet, and then went dead.

This well was the deepest well drilled in the "one well field" and went to a depth of 5893 feet where it tested salt water. It was plugged back and sidetracked twice to test sands in the Cockfield. The well topped the Unigerina sp. from 4600 to 4604 feet, Massilina Pratti from 4701 to 4704 feet, Textularia Hockleyensis from 4750 to 4754 feet, Textularia Dibollensis from 5568 to 5571 feet, Camerina from 5635 to 5638 feet, Ceratobulimina eximia from 7024 to 7027 feet. To the depth of 8735 feet no formation was determined.

The same company's Kirby C-4, west of the discovery well, and in the same survey was setting casing at the close of the week at 5860 feet. On a drill stem test from 5837 to 5861 feet, the well showed 150 feet of oil and 480 feet of mud with cut oil. The test was made through a three eighths-inch choke on top and bottom and the tester was open three minutes and showed a pressure of 200 pounds. Cores were taken from 5854 to 5861 feet and the sand was found to be porous, showing oil and a two-foot shale break.

All Texas Coast Completions Produce

Houston.—Completions along the Texas Gulf Coast during the past week were small as compared to the previous week. McBee Drilling Company's W. W. Baker 1, in the Tomball field of Harris County came in for the biggest well for the week, making 1152 barrels. There were no failures reported during the week, and 11 producing wells with a total initial production of 4332 barrels per day.

Completions along the Texas Gulf Coast during the past week are as follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
BATSON—		
Ada Belle Oil Co., Gulf Prod. Co. 175	5	475
CONROE—		
Houston Oil Co., Hamman 10	504	5144
Humble O&R Co., Cartwright E-1	100	5164
DAMON MOUND—		
Sinclair Prairie Oil Co., Lucas 4	7	1573
TOMBALL—		
McBee Drilling Co., W. W. Baker 1	1152	5577
HULL—		
Houston Oil Co., Orgain 2 (wo)	192	4787
LOUISE—		
Pure Oil Co., Wallace Houston 2	158	5144
MANVEL—		
Harrison & Abercrombie, Lewellyn 1	600	4002
THOMPSON—		
Humble O&R Co., Lockwood-Sharp A-26	884	5265
SPINDLETOP—		
Yount Lee Oil Co., McFaddin 33 (wo)	480	4679
McFaddin 116, (wo)	250	4641

*Failures; †Junked; ¶Million cu. ft. gas.

Louisiana Coastal Completions Decrease

Lake Charles, La.—Completions along the Louisiana Gulf Coast showed a decrease as compared to the previous week. Of the five completions, three resulted in producing wells with an initial production of 1924 barrels of pipe line oil per day. There were two failures.

Completions along the Louisiana Coastal area during the past week are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
CAMERON MEADOWS—		
Burton Sutton Oil Co., School Land 1, (wo)	300	4381
EAST BAY JUNOP—		
The Texas Co., State Bay Junop B-1	*	7375
LEESVILLE—		
Emerald Pet. Corp., State of La. 3	1240	4272
State of La. 6	384	3735
ST. LANDRY PARISH—		
R. W. Hutchinson, Whitman Lbr. Co. 1, 2 mi sw of Swayze Lake, Sec 15-5s-6e	*	3696

*Failures; †Junked; ¶Million cu. ft. gas.

North Louisiana Has Only Two New Reports

Shreveport, La.—North Louisiana felt the effects of the Fourth of July holiday interruption last week, only two first reports being added. In the old Sarepta field, Webster Parish, I. G. Abney Oil Company is rigging up L. D. Slack 3, 660 feet north and 575 feet west SEC NE SE Section 36-23n-11w, offsetting a recent 50-barrel well.

F. M. Crow and associates, Shreveport, who recently assembled a block of acreage near Benton, Bossier Parish, are drilling below 900 feet in Biedenharn 1, 330 feet N&W SEC Section 23-21n-14w.

Five Wildcats Hold Interest in Louisiana

Shreveport, La.—Five wildcat tests, two of which are below the 5000-foot level, held center of interest last week in North Louisiana.

In De Soto Parish, near Logansport, E. T. Oakes' Johnson 1, SE NE NW Section 30-13n-15w, is drilling oolitic lime at 5278 feet; elevation is 296.3 feet.

In Natchitoches Parish, Plummer & McDaniels of Houston, Texas, with a large rig, are drilling lime at 5101 feet in Lizzie Walmsley 1, SE SW Section 45-10n-8w. An oil show was reported at about 4600 feet. However, the well is drilling "tight" and all visitors, including scouts, are barred. This test, drilling on an 8000-acre block, and which may go to 7000 feet, can make core recovery through the drill stem without coming out of the hole.

In Bossier Parish, on an 18,000-acre block, Rocky Mount Syndicate et al were to begin coring Thursday, July 5, at 2600 feet for the Blossom (Ozan), in C. M. Antrim 1, SW NE Section 26-22n-12w. Producers Oil & Gas Company's W. H. Werner 1, SE SE Section 7-17n-11w, attempting to extend the 4200-foot gas producing possibilities of the old Sligo area more than two miles away, was drilling below 3900 feet.

The fifth test is that of Eastern Texas Production Company in Lincoln Parish, in the North Louisiana Basin, between the Sabine and Monroe Uplifts. This test, Givens Estate 1, SW NE Section 2-17n-14w, a 4000-foot test on a 16,000-acre block, is drilling below 2800 feet, and within 200 feet was to start coring. This test logged Nacatosh at 2312 feet and reached base of Annona chalk at 2765 feet. One test of three drilled on this "Grambling structure" several years ago by Roxana Petroleum Company had an oil show around 3200 feet.

Zwolle Wells Deepened With Cable Tools

Shreveport, La.—Although all first drilling of wells in the Zwolle and Converse fields, Sabine Parish, is done with rotary, it continues to be the custom to deepen most of the wells with cable tools when they are depleted in the upper horizons of the chalk.

Two cable tool deepening jobs were started last week, one in Converse and one in Zwolle. In Converse, J. D. Reynolds, who completed G. I. Paul Estate 1, 586 feet north and 263 feet west SEC SW NE Section 9-9n-13w, making 95 barrels of oil and five barrels of salt water at 1961 feet last January, is deepening with cable tools, being below 1967 feet. J. E. Bauer et al's Barthold 3, NE SE NE Section 35-8n-12w, that showed oil in the Wolf City sand, only to have salt water appear, was deepened to 2780 feet with cable tools, after being completed last September at 2381 feet as a 100-barrel well.

Bellevue Shallow Wells Are Being Reopened

Shreveport, La. — North Louisiana's shallowest oil field that produced for 10 years from the Nacatosh at 300 to 400 feet, and was abandoned in 1931 when the top price for oil of 40 gravity and above dropped to 22 cents per barrel (the severance tax on that oil in Louisiana is 11 cents) is being re-opened and will become a producing field again. This is the Bellevue field in Bossier Parish, about 15 miles east of Shreveport.

This field produces a heavy oil and when the field was abandoned it had 160 stripper wells with a combined daily yield of approximately 600 barrels.

Recently O. F. Shaver, Trustee, of Shreveport, contracted with J. W. Elson to drill three wells to the Nacatosh in Section 10-19n-11w, two of which are being standardized and appear to be good for 75 to 100 barrels daily combined. There were 23 producing wells on the Elston lease when the field was abandoned.

Louisiana Oil Refining Corporation, which owned 45 wells in the field when it was abandoned, has re-opened one well, an offset to one of Shaver's new pumpers. French et al have taken over the Wyche lease in Bellevue with 10 wells, which these operators plan to re-open immediately.

Shoreline Oil Company, now building a 1000-barrel refinery at Lewis, Caddo Parish, has contracted with Shaver to handle his Bellevue production, which will be handled by Grogan Oil Company as purchaser.

Louisiana Oil Refining Corporation has the only outlet still existing from the

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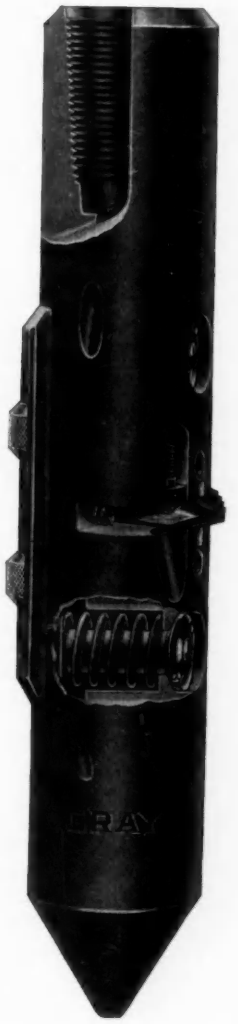

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Bellevue field, a 3½ mile line of four- and six-inch that runs to its loading rack on the Louisiana & Arkansas Railroad at Drake's Spur. It has two 55,000-barrel tanks there which recently have been repaired.

George W. Weatherbee, one of the early operators in Bellevue, is reported planning to re-open a number of the wells that have been shut down for three years. Casing was pulled in some of the wells when they were abandoned but others still have the casing in the hole.

Treatment of the Bellevue oil to free it of water is done in the field.

Five North Louisiana Completions Are Failures

Shreveport, La.—All five completions in North Louisiana last week were failures. The interruption of the July 4th holiday was held responsible for the abbreviated list of completions.

Penn-Southern Petroleum Company abandoned a wildcat, Chopin Lumber Company 1, NE SW Section 4-5n-5w, in Natchitoches Parish, probably south of the Sabine Uplift as a dry hole in Wilcox at 3525 feet. This was on a 12,000-acre block for which The Texas Company paid $12,000 for a half interest, after geophysical exploration. It was nine miles northeast of a test drilled by G. R. Stevens et al to 3280 feet in the Wilcox and abandoned. Top of Cockfield in the Penn-Southern test was 1270 feet.

Another test abandoned last week was a wildcat in northern DeSoto Parish. In the extreme southeast offshoot of the Zwolle field, Sabine Parish, Service Drilling & Royalty Company's R. A. Brown 1, SE NE SE Section 7-7n-10w, was abandoned in Wolf City sand at 3174 feet as a salt water hole. Base of the Zwolle chalk was 3158 feet.

Another Zwolle test which had shown possibilities of oil production in the Wolf City sand the preceding week, is now shut down after salt water appeared. This is J. E. Bauer et al's Barthold 3, NE SE NE Section 25-8n-12w, which was deepened to 2780 feet, four feet into sand, with cable tools from 2381 feet in chalk, where it was a 100-barrel daily producer.

Completions last week in North Louisiana follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
DE SOTO PARISH—		
R. E. Collins, A. M. Thigpen 1, nw ne 29-15n-12w	*	2805
NATCHITOCHES PARISH—		
Penn-Southern Pet. Co., Chopin Lbr. Co. 1, ne sw 4-5n-5w	*	3525
SABINE PARISH (Zwolle)—		
Service Drilling & Royalty Co., R. A. Brown 1, ne se 7-7n-10w	*	3174
Pelican Nat. Gas Co., La. Long Leaf Lbr. Co. 29, sw ne 29-8n-11w	*	2660
La. Long Leaf Lbr. Co. 32, nw nw 31-8n-11w	*	2575

*Failures; †Junked; ¶Million cu. ft. gas.

North Louisiana Allowable Is Cut

Shreveport, La.—Dr. J. A. Shaw, director of the minerals division of the Louisiana Conservation Commission, who handles the allocation of Louisiana's federal oil allowable under Secretary of the Interior Harold L. Ickes, in his proration order for July, issued June 30, cut North Louisiana's allowable 500 barrels to 23,000 barrels and applied all the increase in the 88,900-barrel allowable for the state to Gulf Coast fields, whose allowable was set at 65,875 barrels.

Despite the fact that pipe line runs for North Louisiana show approximately 25,000 barrels daily, Dr. Shaw claims that North Louisiana's July allowable will not curtail the production of any North Louisiana well. No well in North Louisiana is prorated, he states.

Jackson Gas Field Statistics to July 1

Jackson, Miss.—Total amount of gas withdrawn from the Jackson gas field in Hinds and Rankin Counties up to July 1, 1934, since discovery of the field on February 16, 1930, is 29,819,662,000,000 cubic feet, according to figures compiled by the State Oil and Gas Board, of which Dr. George C. Swearengen is director.

The average daily withdrawal at present is given as twenty-six million cubic feet. The total open flow capacity of the 110 wells at present listed as producers is given as four billion cubic feet daily.

Since the field was discovered, besides the 110 gassers still producing, there have been three oil wells yielding small amount of 13 gravity oil completed; failures, 35 and 15 wells that produced gas and later were abandoned, making a total of 163 completions in the field since its discovery.

Mississippi Has One Completion, One Start

Jackson, Miss.—One completion, a gasser in the Jackson gas field, and one new location, a wildcat in Rankin County, east of the Jackson gas field, were reported in Mississippi last week.

The new test is Love Petroleum Company's Pearl River-Interior Lumber Company 1, located 600 feet north and east SWC Section 15-6n-2e, and materials are moving in. This location is 1½ miles northeast of the same company's Interior Lumber Company 1, Section 28-6n-2e, drilled to igneous rock last year and abandoned at 3712 feet. This test logged a sand that showed traces of light oil at 3655-59 feet in what was identified as Tuscaloosa (Woodbine). The new operation is for oil in this horizon.

The last week's Mississippi completion follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
RANKIN COUNTY (Jackson)—		
Love Pet. Co., Fee 2, sw nw 1-5n-1e	¶39	2407

*Failures; †Junked; ¶Million cu. ft. gas.

Mississippi Survey

Jackson, Miss.—Jenkins et al of Longview, Texas, have assembled a block of approximately 10,000 acres in northeast Kemper County, Mississippi, near the Alabama line, for a geological and magnetometer survey to be made by W. R. Julian of Shreveport. If a test is drilled it probably will be to the Pennsylvanian around 3500 feet.

The Provincial Geology Of the State of Florida

Miami, Fla.—William G. Blanchard, development engineer for Mid-Florida Exploration Company, who own a million-acre block on the Ocala Uplift, states that the Florida sedimentary section, already proved in unbroken sequence from Pleistocene, through Pleiocene, Miocene, Oligocene to Upper Cretaceous, varies in thickness from the minimum, so far disclosed, of 4000 feet on top of the Ocala Uplift, to unknown thickness in other parts of the state. A much greater thickness will probably be found in the southern part of the peninsula, where it is possible that both Lower Cretaceous and Jurassic will be added to the section.

Basement rocks have been encountered in the state in but one well; at 4000 feet in the York well on the Ocala Uplift. Continuous samples from 4000 to 6180 feet in this well showed the material to be metamorphic (probably Pre-Cambrian) mica shists and quartsite with considerable biatite. Magnetic susceptibility of this material approximates 165 as compared to O-1 on the same scale for the sedimentaries above.

The major regional exposed structural feature along the Gulf Coast, east of the Sabine Uplift, is the Ocala Uplift in Central Florida. It is plainly marked by Ocala (Jackson) covering well over 5000 square miles. The Ocala Uplift is in juxtaposition with a great offshore deep in the Gulf and isostatic adjustment between the two was probably not completed until Miocene times.

Based on geophysical explorations, it would seem that early folding under that area of the peninsula as far south as Ocala, contrary to general opinion, was parallel to the Appalachians trending northeast by southwest. From Ocala south the province seems to change in makeup from the Appalachian to Antillean.

North Louisiana Acreage Deals Reported

Shreveport, La.—T. L. James & Company, of Ruston, Louisiana, has assigned to the General Production Company the north half of the southeast quarter of Section 13-7n-11w, in the southeast part of the Zwolle oil field, Sabine Parish, for a consideration of $12,000, payable from seven thirty-seconds of first production. H. E. Webb sold to the same buyer his interest in SE NE Section 4-7-13, for $500.

Kopp et al have taken over the wildcat block and test of Onyett et al in Red River Parish. The test, R. M. Thomas 1, Section 34-13-8w, has been shut down for two months at 740 feet.

Tooke et al, who recently took over the block of Kincaid & Kelly in Red River Parish and are drilling below 1500 feet in J. Ober 1, NW SE Section 5-14n-10w, have been adding to their block to the north reaching over into Bossier Parish where these operators took 718 acres in townships 14 and 15 north, ranges 10 and 11 west.

In the Zwolle field, New Deal Oil Company has sold south half SE SW SW Section 30-8n-12w, and south half NE Section 2-7-12 to Loy L. Beene for $4500.

Arkansas Activity At Lowest Ebb

Texarkana, Ark. — Arkansas had a quiet Independence Day week, having no completions and only one first report. Duluth Arkansas Oil Company ran derrick pattern for E. L. Beck 3, SWC SE SW Section 34-15-26, in the Garland City field, Miller County.

New Locations Required By New Mexico Completions

Hobbs, New Mexico.—Five flowing wells were completed in Lea County during the past week, including two each for the Eunice and Hobbs fields, while the North Jal area contributed one of its largest producers.

Both completions in the Hobbs field afforded minor extensions and were treated with acid before official potential gauges were taken. Skelly Oil Company's B. H. Turner 2, C NE NW Section 34-18s-38e, was rated at 10 barrels hourly at 4203 feet prior to being treated with 2000 gallons of acid solution, and earned a potential rating of 2462 barrels oil and 4,966,000 cubic feet of gas daily, with an allowable of 82 barrels. It is producing from saturated lime at 4145-66 feet, with an elevation of 3642 feet, and extends the productive limits of the field a short distance on the east flank.

Noble & Company's State-Shell 2, NEc SW Section 24-18s-37e, advanced the west line of production a short distance north in registering an initial flow of 9736 barrels oil and 12,585,000 cubic feet of gas daily at 4171 feet after using 1000 gallons of acid solution. It will require three offsets. Allowable production of the Hobbs field was cut 1854 barrels, effective July 1, making the new quota for 204 flowing and pumping wells 34,981 barrels daily. These wells have a rated potential of 1,895,294 barrels daily, according to latest proration schedule prepared by Umpire C. G. Staley.

Atlantic Oil Producing Company added its third oil producer in the Eunice field last week in completing State 2-B with a natural flow of 900 barrels daily at 3941 feet, with an elevation of 3608 feet. Continental Oil Company and The California Company's A. E. Meyer 3-A, SW NW Section 17-21s-36e, flowed 1000 barrels daily by heads from saturated lime at 3808-3970 feet. The latter have two other tests under way and locations made for two additional tests in the proven section of the Eunice field. Shell Petroleum Corporation's State 1, C NE SE Section 13-21s-35e, has been authorized to try for a mile westward extension.

Completion of Repollo Oil Company's E. Stephens 1, SWc NE Section 13-25s-36e, with a natural flow of 190 barrels of oil per hour, based on a brief gauge, from saturated lime at 3300-3325 feet automatically creates three new locations to be drilled in the North Jal field. Continental Oil Company and The California Company will drill two tests and Empire Gas & Fuel Company one in matching this offset drainage. Stephens 1 has been given a proration allowable of 185 barrels daily, the maximum for the field. Top of brown lime was logged at 2710 feet, with an elevation of 3149 feet. All of the big oil producers scored in the North Jal field lately have sustained sharp decreases in output even though prorated to a small percentage of their potential, and sulphur water put in its appearance in short order. Because of these developments operators are insisting on the 660-foot spacing distance from property lines, as it now appears that the recovery per acre will not support close spacings.

Wyoming Road Oil Demand Being Met

Cody, Wyo.—Routine progress was reported this week in the black oil fields of northern Wyoming which have in the past two weeks shown a marked increase in drilling activity because of the demand for road oil in the Mountain states.

Paul Stock and associates' Government 1, SE NE Section 29-31n-100w, NW SE NW Section 14-44n-98w, in the Oregon Basin field, 18 miles southwest of here, is drilling at 2000 feet.

The Ohio Oil Company has rig up for Byron-Union 2, SE NE Section 23-56n-97w, in the Byron field, Big Horn County. In the same field, S. H. Keoughan is drilling Taylor Oil Company's Hoskins 1, SE SE Section 25-56n-97w, under operating agreement. Total depth is at 2950 feet and test is drilling with rotary equipment. The test shut down the past fall after it had drilled to 2855 feet with cable tools.

On Garland Dome, alongside the Byron field, Garland Oil Company is drilling below 200 feet in Government 2, SE NE NW Section 14-56n-98w, with 60 feet of conductor pipe set. Test will go to the Frontier at 1500 feet. The company has let contracts for four more wells in the field.

Crosby-Huntington's Denio Milling Company 1, Tract 43, Section 15-55n-97w, is drilling at 1150 feet, after cementing 12½-inch casing on top of the Cody formation at 1100 feet. This test is in the Byron district.

East Shelby

Shelby, Mont.—A new test got underway this week in the recently proved East Shelby shallow oil pool, Toole County. Thelan & Freeman are rigging up Johnson 1, NE NE Section 29-33n-2e. Bruce Radigan et al's (formerly C. Leonard Smith et al) McDonnough 1, CNW NW Section 17-33n-2e, is waiting on production casing at 1415 feet.

Rigging Up to Drill Through "Ice Cream"

Walden, Colo.—Continental Oil Company's Rosa Hoye 3, NW NE Section 34-9n-78w, on the North McCallum Dome, Jackson County, Colorado, is rigging up. This test is due to attract considerable attention because of the carbon dioxide sand it must pass in the Wall Creek series. The discovery well, Hoye 1, drilled into the Wall Creek getting an estimated 40,000,000 cubic foot flow of the heavy freezing gas along with an estimated 120 barrels daily of high gravity crude. Well has never been officially tested because of the freezing power of the gas which split the casing so that the well has so far only been brought under

partial control. The present test expects to drill through the sand to the Dakota series, and will be kept heavily mudded.

Hamilton Dome

Argo Oil Company's Ellen 10, NW Section 14-44n-98w, in the Hamilton Dome field, is drilling ahead from 1115 feet after setting 10-inch casing at that depth. Test is scheduled for the Tensleep formation. It is an offset to the Empire State Oil Company's Republic 4, and the Columbus Oil Company's Columbus 1.

Lost Soldier

Rawlins, Wyo.—Tropic Oil Company which has a near completion in the Lost Soldier field, Carbon County, let contracts this week to Coal & Fertig, drilling contractors of Rawlins, for three more wells in the Lost Soldier field. The company's Government 1, SE SW Section 34-27n-90w, topped the Dakota sand at 1900 feet and is showing considerable oil and gas. This test is running production string.

Hiawatha Dome

Rock Springs, Wyo.—Three tests are under way in the Hiawatha field, Moffat County, northwestern Colorado. The Mountain Fuel Supply Company's Florence Wilson 4-B, CNE NW Section 23-12n-100w, is drilling at 1950 feet. Company has rig up for C. B. Murdock 1, southeast corner of NE Section 24-12n-101w, on West Hiawatha Dome. The Texas Company's Van Schaik 1, CSW SW Section 9-12n-100w, in Hiawatha, is drilling at 1000 feet after running 13-inch casing to 975 feet.

East Iles Dome

Craig, Colo.—Stanolind Oil & Gas Company's Parkinson 6, NW Section 23-4n-79w, in Colorado's only flush field, the East Iles Dome pool, Moffat County, is drilling out plug with production string set on top of the Sundance sand at 3318 feet.

The Texas Company's Carstarphen 5, NE NW Section 5-6n-86w, Tow Creek field, Rout County, is drilling at 1909 feet.

Lander, Wyo.—The Kinney-Coastal Oil Company's Chatterton-Weeks 1, CSW NE Section 22-3n-1w, important test to lower sands in the Pilot Butte field, Freemont County, was a failure. It drilled into brackish water at 4110 feet after topping the Lakota at 4095 feet. It is shut down with hole bottomed at 4127 feet awaiting orders from company's headquarters in Denver whether to plug and abandon or to plug back to the gas horizon in the Muddy sand at 3561-3600 feet where a well was completed as a gasser a year ago.

Two Completed, Two Start at Cut Bank

Cut Bank, Mont.—Two completions and three starts were made in the Cut Bank field, Glacier County, Montana, this week.

Lon Crumley's Weaver 2, SW SE Section 27-35n-6w, pumped 50 barrels initial with total depth at 2940 feet and the Lower Cut Bank sand logged at 2907-2935 feet. Dakota Montana Oil Company's Gilham 3, NE SW Section 3-34n-6w, is a 25-barrel well. It drilled to 2947 feet getting production between 2884-2920 feet.

New tests, which started this week are: R. C. Tarrant's Getty 2, NW SE Section 2-34n-6w, spudding at 250 feet. Nyhagen & Bell's Anderson 3, NW SW Section 26-35n-6w, moving in. The Texas Company's Morrison 1-M-358, Lot 5, Section 22-35n-6w, cellar dug.

The Texas Company's Morrison 1-M-1357, Lot 8, Section 23-35n-6w (formerly carried as Morrison 1), is testing production at 2890 feet.

MOUNTAIN STATES COMPLETIONS

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank field)—		
Texas Co., Purdy 3, nw sw 35-35n-6w	80	2955
TOOLE COUNTY (Kevin-Sunburst field)—		
Nepstead-Vander Gas Co., Halverson 7, w½ sw 28-35n-1w	296	1418

COLORADO

Ramsey Pet. Co., Scriven 1, cnw 22-7n-59w	*	6894

NEW MEXICO

R. C. Oswell & Sons, Government 5, ne se ne 33-30n-11w	30	1350
LEA COUNTY (Eunice field)—		
Atlantic Oil Prod. Co., State 2-B, Sec 8-21s-36e	900	3941
Conoco & The California Co., A. E. Meyer 3-A, c sw nw 17-21-36	1000	3970
LEA COUNTY (Hobbs field)—		
Noble & Co., State-Shell 2, nec sw 24-18s-37e	¶12½-9735	4171
Skelly Oil Co., Turner 2, c ne nw 34-18s-38e	¶5-2460	4203
LEA COUNTY (Jal field)—		
Repollo Oil Co., E. Stephens 1, swc ne 13-25s-36e	¶6-4560	3325

*Failures; †Junked; ¶Million cu. ft. gas.

No Let Up Expected In Dominguez Activity

Los Angeles.—It is indicated that Shell Oil Company and Union Oil Company plan no immediate let up in drilling available locations at Dominguez, a field where only 15 wells were completed in 1933, only eight in 1932 and seven in 1931, compared with 10 new wells the first five months this year.

During the past week, Union Oil Company announced four new locations, one on the Callender and three on the Hellman lease. Union already has five wells drilling, one of which is near completion in an upper zone. Carson 8 is drilling in sand and shale at 6175 feet with 8⅝-inch landed at 5040 feet. Hellman 31 is bottomed at 6255 feet and idle for the present.

Shell Oil Company has recently made location for Reyes 58 and will be rigging up in a week. Shell is drilling four other holes in the field, and should complete one of these in a few days.

Republic Petroleum Corporation's Childs 5 is ready for a pumping test at 4632 feet.

Long Beach Pool Has 32 Operations

Los Angeles.—Twenty-four strings of tools are busy at Long Beach field, drilling new wells or redrilling old holes, in addition to three rigging up to spud and five rigs.

Shell Oil Company is rigging up to start Horsch A1 and Kent-Garth 6, both new holes. The Texas Company is drilling three wells, one being a new hole and the other two are redrilling jobs. Union Oil Company is working on Nos. 13 and 14 on the Long Beach Community lease.

Hancock Oil Company's No. 26, a new hole, has stopped drilling at 5100 feet and cemented 6⅝-inch at 4380 feet, preparatory to an early production test.

Yarbrough & Lake's Signal 15 has been cleaned out to 6000 feet with the old bottom at 7842 feet. Hole will be shot in a few days to test oil sands higher up.

A number of wells are ready for production tests and the number of completions in July probably will exceed any 30-day period for several months.

New Well Spuds In Coyote Field

Los Angeles.—Standard Oil Company spudded Emery 57 and Murphy-Coyote 119 late in June in the West Coyote field, and will spud Murphy-Coyote 118 in a few days. No. 116 on this lease was drilled to 3378 feet where a fishing job developed. In this field, Severns Drilling Company is drilling in shale at 2935 feet in McNally 3.

In the East Coyote field, Bardeen Petroleum Company's A. U. W. Co. 1 pumped 180 barrels of 18 gravity oil, on a test, after plugging to 5020 feet from 5201 feet. The only other well at East Coyote is idle at 3696 feet.

New Inglewood Field Looks Good

Los Angeles.—Plymouth Oil Company had reached a depth of 4732 feet, July 2, in Pollard 1, and continues to core ahead carefully in oil sand and shale, about equally divided. It is looking better as the core drill goes deeper, and it is indicated the new sand in the Inglewood field will prove to be fairly prolific, as gas is getting stronger. The new and deeper sand so far is an unknown quantity, but to say the least, it is looking very good. The Plymouth well is north of west of the fault running across the field. A string of 8⅝-inch casing was cemented at 3950 feet and did not hold on either the first or second cementing jobs.

Across the fault, Pacific Western Oil Company's Rubel 17 has been drilling in oil sand and shale more than a week and has reached a depth of 3945 feet. Since an oil sand, or rather a series of oil sands, has been picked up on both sides of the fault, by the two companies mentioned, it is indicated the old Inglewood field is in for a new and deeper drilling campaign.

Standard Oil Company's Baldwin-Cieneha 105 is drilling at 2500 feet after cementing 11¾-inch pipe at 2353 feet. The cementing job is wet and a re-cementing job is in progress. Standard is starting Vickers 1-28.

Three other wells are drilling in the field.

Small Well Completed At Huntington Beach

Los Angeles.—When Standard Oil Company's Pacific Electric 22, at Huntington Beach, was completed for 180 barrels of 30.4 gravity oil at 4300 feet, the small production was a surprise, and still another surprise was registered when the well made 6,500,000 cubic feet of gas. This well is on the narrow strip between the highway and the ocean and previous wells on this strip have furnished larger oil production and less gas.

But in spite of the small production, Standard spudded Pacific Electric 23, one location away from the new producer. Standard also has rig up for B-69 on its large lease west of the townlot area.

There are only seven other strings of tools running in the field.

Practically all owners of wells at Huntington Beach charged with deflecting the holes out under the ocean have signed agreements with the state to pay the state a royalty on all oil produced by such wells. The operators at the same time agreed not to produce more oil than the official allotment. But in spite of these operators agreeing to hold back production, the field as a whole has been exceeding the allowable for most of June. Near the close of the month the field daily average dropped back to approximately its allowable.

Two Large Producers In at Kettleman Hills

Los Angeles.—Two new wells in California the past week at Kettleman Hills had a total flush production of almost 25,000 barrels, while the other four completions only furnished a total of 815 barrels. Kettleman North Dome Association's No. 74-32J was completed for 14,760 barrels of 34 gravity oil at 8689 feet. String of 8⅝-inch casing was cemented at 7714 feet. Standard Oil Company's No. 58-27J started out making 9680 barrels of 33 gravity oil at 8570 feet. It is also making 7,000,000 cubic feet of gas.

One hole was abandoned at 6025 feet in Section 24-30-28, Mountain View field, in Kern County.

The list of new completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
KETTLEMAN HILLS—		
Kettleman North Dome Assn., 74-32J	14,760	8689
Standard Oil Co., 58-27J	9680	8570
ROUND MOUNTAIN—		
Shamrock Oil Corp., No. 4	200	1565
MOUNTAIN VIEW—		
Centralia Oil Co., Vedder 1	*	6025
HUNTINGTON BEACH—		
Standard Oil Co., P. E. 22	180	4300
LONG BEACH—		
Alsier Oil Co., No. 1	260	4990
SANTA FE SPRINGS—		
Union Oil Co., Farwell 5	175	4520

*Failures; †Junked; ¶Million cu. ft. gas.

Wildcat Location Is Made Near Los Alamos

Los Angeles.—A wildcat test is to be drilled on the north flank of the Purisima Hills near Los Alamos, Santa Barbara County, California, by the Petroleum Securities Company, jointly with the Hancock Oil Company. The test is located in Section 31-8-32, on a well defined closed structure worked out by Richard R. Crandall, consulting geologist of Los Angeles. The production zones of the Santa Maria field are to be objective of the well.

The well is to be drilled on land owned in fee by the Doheny interests, offsetting a 5000-acre lease held by Hancock Oil Company, and the test is expected to be conclusive.

Potrero Field

Los Angeles.—Lost drill pipe has been recovered by Wilshire Oil Company in its Potrero Club 2, deep test for the old Potrero field, and at last report was coring in shale with streaks of sand at 7460 feet.

Michigan Gas Line To Be Construction

Mt. Pleasant, Mich.—Tentative acceptance of the rate schedule proposed for Muskegon and environs by the Muskegon Gas Company and the American Michigan Pipe Line Company, is expected to be followed shortly with a permit to construct a 55-mile natural gas pipe line from the Austin township (Mecosta County), gas field to Muskegon. Approval of the rate schedule had delayed granting of the permit to the American Michigan Pipe Line Company, which proposes to lay the line.

Casinghead Gasoline Plant

Mt. Pleasant, Mich.—James C. Graves of Saginaw has announced plans to construct a casinghead gas plant in the Porter (Midland County) oil field this summer. At the present time there is no casinghead plant operating in the Porter area.

Michigan Operators Complete 13 Wells

Mt. Pleasant, Mich.—Thirteen completions in Michigan for the week included nine oil producers in the Porter district, one gauging over 6000 barrels initial, and failures on two wildcat tests. Melvin and Brehm will abandon Whitaker 1, Midland County, Geneva township, NW SW SE Section 19, after picking up water at 3761 feet. Dundee was topped at 3637 feet.

Although not yet plugged, rig has been moved off of J. L. Strachen's Moss 1, Ionia County, North Plains township, NE SE SE Section 19, an outpost test that had oil shows in the Traverse and Upper Dundee but not in commercial quantities. It was drilled to 3017 feet, bottom hole.

All other completions for the week were in defined areas.

Completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Geo. Hanner, Hathaway 4, Porter twp, nw se ne sec 17	94	3435
J. M. Harvey, State Bank 3, Porter twp, sw sw se sec 8	15	3425
Pure Oil Co., Rosa 3, Porter twp, nw se nw sec 21	3336	3426
Bond-Risley 3, Porter twp, sw ne ne sec 20	6720	3430
Wyant 6, Porter twp, sw sw sw sec 16	450	3425
Stork Oil Co., Richmond 4, Porter twp, nw nw sw sec 22	105	3430
Davis Oil Co., Neitzke 7, Porter twp, se nw nw sec 21	1200	3431
Melvin & Brehm's Whitaker 1, Geneva twp, nw sw se sec 19	*	3761
ISABELLA COUNTY—		
Wittmer Oil Co., Mahar 1, Vernon twp, e½ se sec 26	*	1400
Atha Oil Co., Mahar B-1, Vernon twp, sw sw sec 25	¶2	1308
IONIA COUNTY—		
J. L. Strachen, Moss 1, North Plain twp, ne ne se sec 19	*	3017

*Failures; †Junked; ¶Million cu. ft. gas.

Drilling Reports On Important Wildcats

CALIFORNIA

KERN COUNTY

BUENA VISTA LAKE—Ohio Oil Co.'s K. C. L. 31-1, 31-31-26, pb 5300 ft, to perforate 5200 ft, for test, td 7957 ft.

BUENA VISTA HILLS—E. C. Arnold's No. 1, 34-31-24, rig.

COMANCHE POINT—Comanche Oil Co.'s No. 1, 15-32-29, dr shale 3560 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 200 ft.

EDISON—Elyod Pet. Corp.'s No. 1, 19-30-30, to pb to 1840 ft and test upper showings. Mitchell-MacMillian Co.'s No. 1, 8-30-28, lcn. Mountain View Dev. Corp.'s Spangler 1, 12-30-28, dr hard sand & shale 4320 ft.

LOST HILLS—Associated Oil Co.'s Williamson 1, 2-26-20, td 7858 ft, will co and pb for test by stages.

McKITTRICK—Shell Oil Co.'s Midway-Premier 1, 21-29-21, dr sand & shale 5016 ft. Standard Oil Co.'s No. 45, 15-30-22, td 2932 ft, on production test made 2,000,000 cu ft gas and dropped to 800,000 ft, to pull liner and deepen. Welport Oil Co.'s No. 1, 26-29-21, 3-in tubing to 1140 ft, to pump, td 1195 ft.

MT. POSO—Associated Oil Co.'s Fortine 1, 30-27-28, ready to spud. Ohio Oil Co.'s Van Houten 1, 20-27-27, spudded June 25.

NO. MIDWAY—Midway Peak Oil Co.'s No. 1, 3-32-22, dr shale 1425 ft.

NO. SEMITROPIC — S. T. Alexander's Shields 1, 29-25-21, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Welton's Harris 1, 35-11-23, dr shale 970 ft.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, co 573 ft.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-1-19, sd 6001 ft.

KINGS COUNTY

AVENAL—Carl Weller's Baby King 2, 11-23-16, dr shale 1260 ft.

TULARE LAKE DIST.—Armadillo Gas Co.'s No. 1, 32-22-20, td 1745 ft, 6¼-in cas set 1516 ft. Commonwealth Cons. Gas Co.'s No. 1, 21-22-20, repairing equip, 1581 ft; No. 2 same section, rigging portable rotary. Tulare Basin Gas Co.'s No. 2, 2-23-19, td 1208 ft, blew out, sanded up.

TULARE COUNTY

ALPAUGH—Trico Oil & Gas Co.'s Magee & Sons 1, 33-24-22, dr shale 1190 ft.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, dr sand & shale 4120 ft.

SAN JOAQUIN COUNTY

TRACY—Milham Exploration Co.'s Connolly 1, 5-4-5, dr shale streaks gas sand 5540 ft.

SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Bishop 1, 20-4-28, spudded June 25. Hastain Stone's Simonds-Campbell 1, 9-4-28, sd 2785 ft.

LOMPOC—Lompoc Pet. Co.'s Beauterbaugh 2, 18-7-34, dr shale 2773 ft.

LOS ALAMOS—Petroleum Securities Co.'s Los Alamos 1, 31-8-32, lcn.

NAPLES—W. E. Deuel's No. 1, 7-4-29, sd 5134 ft; will drop from report.

SANTA MARIA—Union Oil Co.'s Moretti 1, 24-10-34, dr brown shale 1607 ft.

SAN LUIS OBISPO COUNTY

CHOLAME—Willett Oil Assn's Jack 2, 10-25-15, dr shale 905 ft.

VENTURA COUNTY

BARDSDALE—H. H. Humphries' No. 1, 18-3-19, sd 275 ft.

CONEJO—American Oil Co.'s Powell 1, 33-2-20, sd 3060 ft.

FILLMORE—Laing & Jacob's Snodgrass 1, 32-4-19, pumping water 700 ft.

HOPPER CANYON — Oil Ridge Oil Co.'s Moran 3, 1-4-19, co 972 ft.

LOS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, dr shale & gray sand, to make test, 7342 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completion and wildcat reports in THE OIL WEEKLY.

* —*dry hole, abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions).*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	woca —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

PIRU—Piru Oil Co.'s Holser 1, 14-4-18, dr shale 450 ft.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr hard brown shale 2145 ft.

SESPE—H. A. Ivers' No. 11, 1-4-20, to run 8¼-in csg, td 1475 ft. Merchants Pet. Co.'s Cochran 4, 1-4-20, redr 710 ft, td 1280 ft. Sullivan & Roberts' No. 1, 28-5-19, lcn. Topa Topa Oil Co.'s No. 1, 33-5-19, sd 3015 ft.

SHIELDS CANYON—The Texas Co.'s No. 128, 4-3-19, rur.

SIMI—American Drilling Co.'s No. 1, 6-2-17, dr shale 360 ft. C. L. Anderson's No. 13, 36-3-18, rur. Henry R. Dabney's No. G-1, 20-2-18, sd 1506 ft, will drop from report. Pomoc Oil Co.'s No. 1, 8-2-17, sd 565 ft; will drop from report. Williamson & Danaker's No. 1, 36-3-18, pumping water, trace of 33 grav. oil, td 1010 ft.

SULPHUR MOUNTAIN — Wm. A. Kirk's No. 5, 21-4-22, wocs, 10-in at 1832 ft, td 1837 ft.

MISCELLANEOUS

FRESNO COUNTY—G & E Dev. Co.'s No. 1, 36-16-14, rur. Western Gulf Oil Co.'s S. P. L. 1, 15-17-17, cemented 6⅝-in csg 8510 ft, td 8868 ft, swabbed water, some oil and gas, to locate water. The Texas Co.'s No. 35-1, 35-20-14, rig. Mustang Oil Co.'s No. 1, 8-21-13, spd and to abandon. Bergman Oil Co.'s Oro Loma 1, 12-12-11, fsg 4000 ft, td 6006 ft. Russ Oil Syndicate's No. 1, 28-12-11, co 4020 ft.

MONTEREY COUNTY—Jas. M. Douglas' No. 1, 36-22-9, dr sandy brown shale 4007 ft.

SUTTER COUNTY—Buttes Oilfields' No. 2, 35-16-1, sd 4320 ft.

YOLO COUNTY—Pacific Northern Gas & Oil Co.'s No. 1, 23-12-3, sd 6770 ft.

SOUTHERN CALIFORNIA

ARTESIA DIST.—Vanco Dev. Co.'s Millard 1, 25-3-12, rig.

ATHENS DIST.—Woodward Oil Co.'s No. 1, 12-3-14, dr shale 2675 ft.

ATWOOD—Midrich Drilling Co.'s Vejar 1, 26-3-9, dr hard brown shale, 1640 ft.

BREA CANYON—Pressel-Perry-Tull's Baird 1, 30-2-9, wocs, td 3079 ft.

CARBON CANYON—Petroleum Dev. Corp.'s Kramer 1, 33-2-8, dr hard shale 1756 ft.

FAIRVIEW DIST.—Explorers Drilling Co.'s Norris 1, 9-6-10, sd 892 ft. Speik Oil Co.'s Derby 1, 9-6-10, sd 1055 ft.

FULLERTON—Union Oil Co.'s Fullerton Heights 1, 22-3-10, dr brown shale 3431 ft.

HUNTINGTON BEACH, on tidelands—Black Eagle Oil Co.'s No. 1-B, permit 194, 32-5-11, td 3987 ft, pb 2000 ft, redr 2050 ft.

NEWPORT—Piatt & Collins' No. 1, 14-6-10, spd June 26. Pioneer Drilling Co.'s Banning 3, 29-6-10, swabbed little heavy oil and gas, co, td 6452 ft.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, sd 6550 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, wocs 12½-in csg 500 ft, td 1460 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, td 4250 ft, to redr to 3040 ft, sd.

SAUGUS—International Oil Dev. Co.'s Powell 1, 34-5-16, coring shale 2026 ft.

WEST WHITTIER — Midfield Oil Co.'s Walker 1, 19-2-11, sd 4867 ft.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco A-1, sd 2225 ft; Gapco B-1, co 3100 ft; Gapco C-1, cellar. All sec 18-2-8.

SAN DIEGO COUNTY—San Diego Gas & Pet. Corp.'s No. 1, 32-18-2, td 4050 ft, fsg.

MONTANA

CASCADE COUNTY—Ralph Chamberlain et al's Test 1, c se 6-19n-2w, Crown Butte structure, lcn.

GLACIER COUNTY—Producers Development Syndicate's Helgason 1, nw nw 29-32n-4w, dr 2672 ft. Barmac Petroleum Co.'s Bruning 1, c sw sw 1-31n-5w, rigged and ready to spud.

JUDITH BASIN COUNTY—Fletcher E. Hunt's Hobson 1, ne sw se 20-14n-15e, dr 700 ft.

LIBERTY COUNTY—J. H. Hamilton Syndicate's Northern Farms 1, ne sw 10-37n-5e, set 12½-in csg 620 ft.

PONDERA COUNTY—Two Medicine Oil & Gas Co.'s Hagen 1, c nw sw 4-31n-7w, mim. California Co.'s Northwest Properties 1, sw ne 20-28n-4w, dr 2000 ft.

TETON COUNTY—E. K. Cheadle, Jr., et al's Balsinger 1, ne se nw 20-27n-8w, dr 1950 ft.

WYOMING

BIG HORN COUNTY—Yale Oil Corporation's Blakesly 1, ne nw 28-49n-91w, rig.

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, sw sw 19-20n-83w, ur and carrying 4¼-in csg 4836 ft. Ohio Oil Co.'s Chappell 1, sw nw 28-21n-76w, dr 3200 ft. Ohio Oil Co.'s Sid Morris 1, nw se 6-20n-77w, dr 1435 ft.

CONVERSE COUNTY — John Ackard's Daniels 1, sw se 17-32n-71w, sd csg trouble. Poison Lake Dome Syndicate's Government 1, s ne sw 33-31n-72w, dr limestone below 300 ft.

FREMONT COUNTY—Sidney H. Keoughan and Monongahela Oil Co.'s Wisda 1, Crooks Gap, ne se se 13-28n-93w, dr 1400 ft. Monongahela Oil Co.'s Southwestern Petroleum 1, nw 7-28n-92w, Spring Creek structure, preparing to co and drill out 50 ft cement plug in effort to bring back 12,000,000 cu ft gas flow at 1045 ft, which will be used as fuel in the Crooks Gap operations.

HOT SPRINGS COUNTY—California Exploration Co.'s Government 1, ne se ne 12-44n-97w, dr 1450 ft.

COLORADO

GRAND COUNTY—Colorado Oil & Refining Co.'s Linke 1, ne sw sw 13-1n-77, dr 475 ft, small so.

PROWERS COUNTY—Trojan Oil & Gas Co.'s Lotus 1, nw ne ne 15-25-46, lowering 8¼-in csg to bottom at 3314 ft, so.

ROUTT COUNTY—Texas Co.'s Sampson 1, se ne se 2-1s-85, rigging up.

WELD COUNTY—Ramsey Petroleum Corporation's Scriven 1, c nw 22-7n-59, wih, will be pb and abd 6894 ft.

NEW MEXICO

CURRY COUNTY — Geo. Schoonmaker's Hart 1, ne se 13-2n-31e, spd to 100 ft and sd.

EDDY COUNTY—Getty Oil Co.'s Cook & Ironsides 2, sw nw 8-20s-29e, so 1100 ft.

SANTA FE COUNTY—Elmer Fisher's Hill 1, sw 6-10n-6e, dr 1830 ft. Owen et al's Cantwell 1, nw ne 5-10n-9e, trying for water shutoff at 500 ft.

TORRENCE COUNTY — Bruce Frazier et al's Frazier 1, c se sw 20-21s-13e, lcn.

MICHIGAN

MIDLAND COUNTY — McClanahan Oil Co.'s Oliver 1, Porter twp., Sec. 23, dr 1300 ft; Converse 1, Greendale twp., Sec. 28, 1500 ft oil from Traverse lime in hole, dr 3350 ft. Geo. Hanner's Hoyt 1, Jasper twp., Sec. 24, fsg 1150 ft. Greendale-Lee Development's Hitsman 1, Lee twp., Sec. 13, sd 2550 ft. Sun Oil Co.'s Vallendar 1, Lincoln twp., Sec. 11, 10-inch 866 ft, dr 870 ft. Howard Patterson's Haskins 1, Ingersol twp., Sec. 26, sd 840 ft.

ISABELLA COUNTY — W. J. Bernier's Duncan 1, Vernon twp., Sec. 9, sd 3500 ft. McClanahan Oil Co.'s Hicks 1, Denver twp., Sec. 27, so 3618 ft, dr 3620 ft; Demski 1, Sec. 27, dr 650 ft. Michigan Cities Natural Gas Co.'s Bartlet-McClintic 3, Broomfield twp., Sec. 3, dr 3450 ft.

OGEMAW COUNTY — McClanahan Oil Co.'s Guliford 1, West Branch twp., Sec. 29, sd 2724 ft; Boutell 1, Ogemaw twp., Sec. 5, fsg 770 ft. C. A. Perry's Wobig 1, Mills twp., Sec. 6, sd 1762 ft. Will C. Mee's Gibbs 1 Mills twp., Sec. 30, so in Traverse 2000 ft.

MONTCALM COUNTY—Daily Crude Oil Co.'s Christensen 3, Home twp., Sec. 3, dr 1700 ft; Blair 1, Ferris twp., Sec. 11, dr 3150 ft; Gustavson 1, Home twp., Sec. 2, rig. Theodore Oil Co.'s Sherwin 1, Home twp., Sec. 13, dr 1950 ft. Old Dutch's Fargar 1, Belvadire twp., Sec. 11, dr 540 ft. Walter & Miller's Durbin 1, Crystall twp., Sec. 11, rig. Pure Oil Co.'s Hansen 1, Home twp., Sec. 10, testing in Traverse, flowed 60 bbls making water, will attempt to get shut off and treat with acid, sd 3100 ft. Rex Oil and Gas Co.'s Johnson 1, Home twp., Sec. 17, fsg 1700 ft; Albaugh 1, Home twp., Sec. 34, dr 500 ft. Northern Oil Co.'s Robinson 1, Richland twp., Sec. 27, sd 460 ft; McGilvery 1, Richland twp., Sec. 34, dr 750 ft. Tope-Blunt-Voorhee's Neff Ranch 1, Day twp., Sec. 22, spd. Atha Oil Co.'s Davenport 1, Ferris twp., Sec. 16, dr 360 ft. Mammoth Petroleum Corp.'s Thomas 1, Home twp., nw sw se Sec. 11, lcn.

MECOSTA COUNTY—Taggart Bros.' McKeough 7, Austin twp., Sec. 2, dr 550 ft. Hall-La Mee Synd.'s Oliver 1, Martiny twp., Sec. 13, lcn. Bryan & Martin's Sheets 1, Millbrook twp., Sec. 35, fsg 300 ft. Columbia Oil & Gas Co.'s Hutchinson 1, Hinton twp., Sec. 14, dr 575 ft.

LAPEER COUNTY — Flynn Oil & Gas Co.'s Branick 2, Oregon twp., Sec. 9, wonl 1380 ft. Gordon Oil Co.'s Smith 1, Arcada twp., Sec. 4, dr 735 ft. Fred W. Craft's Gerwolds 1, Oregon twp., Sec. 9, sd 200 ft. W. C. Sowell's Kohler-McKay 1, Oregon twp., Sec. 4, lcn.

SAGINAW COUNTY—Chapin Oil & Gas Co.'s Sutlif 1, Chapin twp., Sec. 16, dr 950 ft. White Star Oil Co.'s State Bank 1, Birch Run twp., Sec. 26, sd 2585 ft. Crabon Oil Co.'s Berg 1, Birch Run twp., Sec. 26, os 2520 ft, sd. Brant & Marion Prospecting Co.'s Ward 1, Marion twp., Sec. 12, dr 2300 ft. Fred Stork's Hemlock Poultry Farm 1, Richland twp., sw sw ne, Sec. 33, lcn.

MISCELLANEOUS — Clare County: McClanahan Oil Co.'s FrackIton 1, Lincoln twp., Sec. 18, dr 1600 ft. Gratiot County: Mid State Dev.'s Yost 1, Bethany twp., Sec. 27, sd 2050 ft. Eaton County: W. J. Bernier's Woodruth 1, Benton twp., Sec. 5, sd 3083 ft. Wayne County: Drake & Parson's Drake 1, Ecorse twp., Sec. 36, dr 1600 ft. Bay County: A. H. Webber's Wasbinski 1, Kawkaslin twp., Sec. 10, dr 500 ft. Arenac County: Oil State Corp.'s Sheffer 1, Mason twp., Sec. 18, Traverse 1859 ft, water 1867 ft, sd 1950 ft. Gladwin County: Atlas Drilling Co.'s Cronk 1, Gladwin twp., Sec. 23, sd 125 ft. Hillsdale County: B. D. Chandler's Brickner 1, Wright twp., Sec. 11, dr 1015 ft; Chas. Anderson's Cousens 1, Jefferson twp., Sec. 14, dr 800 ft. Genesee County: Power Oil Co.'s Begole 1, Flint twp., Sec. 31, sd 2450 ft. Newaygo County: Newaygo Prosp.'s Grass Lake 1, t16n-r11w, Sec. 7, sd 3525 ft; Newaygo Oil Co.'s Bates 1, Sherman twp., Sec. 12, sd 6600 ft.

KANSAS

BARBER COUNTY—Lario et al's Whelan 1, cnw/4 32-31s-11w, set 15-in at 205 ft, dd, wocs. I. T. I. O. et al's George 1, cse sw 12-33s-10w, br.

BARTON COUNTY — Atlantic Oil Prod. Co.'s Straud 1, cse nw 36-18s-11w, set 15-in. 175 ft; 12-in 1225 ft; dr 1340 ft. Harris-Haun & J. Brouk's Dietz 1, Sec. 21-16s-15w, rig National Ref. Co.'s Ingersoll 1, cnw ne 2-19s-13w, fsg 1840 ft, 10-in collapsed. Walter Shearan et al's Kimpler 1, se ne ne 31-18s-11w, sd 250 ft.

BUTLER COUNTY—L. C. Hay et al's Bolin 1-A, se sw se 36-26s-6e, pay 2159-2162 ft, td 2176 ft, pumped 8 bbls oil and 6 bbls wtr, used 500 gals of acid; pumped 20 bbls in 24 hrs, to retreat.

CHAUTAUQUA COUNTY—Lerke et al's Mason 1, cne ne 5-31s-10e, hfw 1610 ft, base Kans. City lime 1658 ft, td 1661 ft, D&A.

CLAY COUNTY—Seidel Bron's Younker 1, cs/2 se nw 21-9s-4e, fsg 60 ft.

COWLEY COUNTY — Roth & Farrout's Fox 1, se sw 35-30s-7e, sd.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, dr 1776.

ELLSWORTH COUNTY — Elwell et al's Campbell 1, sw cor 20-17s-7w, loc.

FINNEY COUNTY—National Ref. Co. et al's Smith 1, cse sw 2-23s-29w, set 8-in 1750 ft, td 3323 ft; lost hole account fsg job; abd.

GREENWOOD COUNTY—B. Taylor's Wilson 1, se ne se 5-28s-10e, mach, abd. McGinnis' Sample 1, 200 ft s and 600 ft w of east ¼, 16-26s-10e, moving in mach. Greeley et al's Salter 1, sw se sw 28-25s-12e, loc.

HARPER COUNTY—Wood Brothers' Anthony 1, csw sw 17-31s-9w, set 15-in 162 ft, td 3485 ft, fsg.

HARVEY COUNTY—Lassen-Bruce et al's Joseph 1, nw ne 13-24s-2e, sp. and abn.

KINGMAN COUNTY—Kessler et al's Bollinger 1, sw nw sw 12-28s-5w, base Miss. L. 4035 ft, td 4226 ft in Wilcox, abd.

McPHERSON COUNTY — Continental Oil Co. et al's Graber 1, ne nw 32-21s-1w, swabbed 367 bbls in 24 hrs, pumped 870 bbls in 24 hrs, td 3298 ft. Marileen O&G Co. and Goering Bros' Decker 1, nw se 20-18s-1w, set 10-in 1886 ft, td 1995 ft, fsg.

NEMAHA COUNTY—Portland & McKenna's Sudbeck 1, sw nw nw 20-1s-12e, Granite Wash 490 ft, sd.

RENO COUNTY—Sinclair Prairie Oil Co.'s Shepherd 1, se nw 22-26s-9w, base Miss. L. 3934 ft, coring 4124 ft. L. H. Wentz's Milcalf 1, se ne sw 2-24s-7w, set 8-in 2744 ft, hfw 2798 ft, td 2924 ft, fsg. Foraker et al's Hiett 1, se sw ne 34-24s-4w, cellar.

RICE COUNTY—Langston et al's Markle 1, ne ne sw 1-20s-9w, set 10-in 1739 ft, td 2425 ft, fsg. Mid-Kansas O&G Co.'s Proffitt 3, ne nw nw 5-20s-9w, set 15-in 550 ft, 12-in 1580 ft, dr 2320 ft. Aylward, Trees et al's Belder 1, sw se ne 27-20s-7w, hfw 3125 ft, set 6-in 3183 ft, dr 3340 ft. Robertson et al's Johnson 1, nw sw 22-19n-8w, set 15-in 304 ft, dr 1000 ft. Reserve Dev. Co.'s Heinz 1, ne sw se 8-18s-10w, pb 3215 ft, swab dry, pb 3195 ft, so&w; 1000 gal acid, pumped 10 bbls and pumped off; pumped 10 bbls in 14 hrs and pumped off, testing. Continental, Empire and Shell Pet. Corp.'s Bennett 1, nw se 25-12s-8w, swabbed 899 bbls in 24 hrs, ru to pump. Dietrick et al's Fitzpatrick 1, cne ne 30-21s-8w, td 1975 ft, ur 10-in. Elwell et al's Porter 1, ne nw 5-18s-7w, loc.

ROOKS COUNTY—Ashby et al's Doughty 1, csw sw 15-8s-19w, set 12-in 1025 ft, 10-in 1446 ft, hfw 1685 ft, dr 1834 ft. Phillips Pet. Co.'s Dopita 1, csw sw 31-8s-17w, pumping average 103 bbls oil and 10 bbls water daily.

RUSSELL COUNTY — Central Pet. Co.'s Benso 2, nw ne sw 4-14s-15w, loc. Lario O&G Co.'s Neidenthal 1, nec 23-14s-15w, loc.

SEDGWICK COUNTY—Trees Oil Co. and Derby Oil Co. et al's McMinn 1, nw sw ne 36-26s-1e, dr 1797 ft. Cromwell-Lewis' Hammen 1, sw nw 23-27s-2w, (owdd), ru. Sovereign Oil Co.'s Nichols 1, cnw se 20-25s-1w, set 8-in 1953 ft, td 2203 ft, sd.

STAFFORD COUNTY — Stanolind O&G Co.'s Denkler 1, 10-22s-12w, so 3358-3360 ft and 3595 ft, coring 3740 ft.

SUMNER COUNTY — Morgan & Flynn's Mercer 1, nw ne nw 36-32s-1w, set 10-in 2427 ft, td 3040 ft, ur 10-in. Wentz & Continental's Small 1, nw sw 5-33s-4w, rig.

TREGO COUNTY—Alma Pet. Co. et al's Rhodes Estate 1, csw sw 14-11s-23w, set 6-in 3860 ft, conglomerate 3870 ft, td 3885 ft, fsg. Mid-Kansas' Kline 1, sw se 19-14s-24w, ru.

WOODSON COUNTY — Sheedy et al's Hassenpfling 1, nw ne 34-25s-14e, base of Bartlesville 1519 ft, sw 1596 ft, td 1604 ft, sd.

OKLAHOMA

ALFALFA COUNTY—Acre et al's Acre 1, csw ne 14-24n-11w (owdd), otd 5530 ft; set 6-inch at 5530 ft; Oswego 5810 ft, so&g 5910 ft, swabbed 70 bbls oil 6255 ft; td 6460 ft, fsg tools.

ATOKA COUNTY—L. A. Fitts' Blankenship 1, ne nw 19-3s-10e, dr 509 ft. Malernee et al's Greenville National Bank 1, nw se 36-2s-13e, dr 1760 ft. Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, set 5-in 3496 ft.

BECKHAM COUNTY—Price & Watchorn's Hoard 1, ne sw 17-8n-26w, td 475 ft, running 10-in.

CADDO COUNTY—Denver P. & R. Co.'s Noe 1, nw sw sw 34-10n-10w, dr 11,060 ft in shale.

CARTER COUNTY—Hudson and Poland's Sullivan 1, ne se 5-5s-1w, td 2391 ft, sd for water. George Pace et al's M. Jack 1, ne nw nw 10-4s-4w, td 1220 ft, sd for repairs. Daphine Oil Co.'s Hooks 1, se nw nw se 5-1s-2w, rig. McHenry et al's Ratliff 1-A, nw sw 28-1s-2w, so 452 to 468 ft, dr 500 ft.

CLEVELAND COUNTY—Phillips Pet. Co. et al's Community-Baker 1, cse nw 11-9n-2w, set 9-in 5855 ft, td 5870 ft, wocs.

COAL COUNTY — Moore & Deaner's Edwards 1, nw ne se 27-2n-8e, sd 4970 ft.

COMANCHE COUNTY — F. F. Stevens' Green 1, se sw 2-1n-13w, sd 920 ft. Heiden-Taylor's Crutcher 1, sw ne 11-1n-12w, (owdd), moving out mach. Heiden-Taylor's Crutcher 2, c ne 11-1n-12w, sd 616 ft.

COTTON COUNTY—Ben Russell's Fowler 1, se nw 21-4s-12w, sd 3570 ft.

GRADY COUNTY—Travis et al's Carter 1, nw ne se 32-3n-7w, rig.

GRANT COUNTY—W. Earl Witt et al's Patton 1, sw se 19-29n-3w, cellar and pits.

HARPER COUNTY—Sinclair Prairie's Neff 1, nw se (formerly reported as csw se), 21-26n-24w, rur.

HUGHES COUNTY — Olympic Oil Co.'s McClassen 1-A, 910 ft s and 920 ft e in nw 12-9n-8e, wocs. Smith et al's Farmer 1, se nw 32-5n-9e, td 300 ft, lost tools, skid rig, set 12 in at 100 ft, wocs. Scruggs et al's Black 1, nec 13-9n-10e, abd 3929 ft in Wilcox.

JOHNSTON COUNTY — Oklahoma Oil Corp.'s May Tubbi 1, sw ne se 11-2s-8e, dr 875 ft (4200-ft Wilcox test).

JACKSON COUNTY — Gypsy Oil Co.'s Kelly 1, nec 10-1n-20w, (owpb), pb 1688 ft, swb 22 bbls 6 hrs.

KAY COUNTY—Carter Oil Co.'s W. S. Cline 1, se sw se 16-28n-5e, ru.

KINGFISHER COUNTY — Jadeka Dev. Co.'s Frakes 1, csw ne sw 16-15n-6w, dr 4540 ft.

KIOWA COUNTY — Bailey & Johnson's Potts 1-A, ce 1 nw nw sw 31-7n-14w, dr 250 ft.

LEFLORE COUNTY—East Oklahoma O&G Co.'s Metcalf 1, swc 2-4n-26e, cleaning out at 1505 ft. Murdock et al's Fee 1, sw ne sw 15-5n-25e, dr by tools, td 2425 ft.

LINCOLN COUNTY—L. G. Hulse's Sloan 1, sw nw se 19-17n-3e, co new hole 720 ft. Texas Co.'s Gessman 1, se ne 33-14n-4e, set 8⅝ in 4958 ft, td 4958 ft, dr plug. Mid-Continent Pet. Corp.'s Bolby 1, cse sw 27-12n-2e, waiting for rotary tools.

LOGAN COUNTY — W. N. Anthony's Fruin-Eckman 1, se sw 4-16n-1e, dr 4455 ft.

McCLAIN COUNTY — Denver P&R Co.'s Newborn 1, cse sw 22-5n-1e, dr 5410 ft.

MURRAY COUNTY—T. E. Revels et al's

Wolfe 1, nec 18-1n-2e, sd 2430 ft. Gilcrease Oil Co.'s Brown 1, swc 26-1n-2e, dr 1510 ft.

NOBLE COUNTY—Texas Co. et al's Voss 1, sw ne se 28-22n-2w, flow 865 bbls in 33 hrs. flow by head, dr 4859 ft. Magnolia's Crawford 1, se nw 27-21n-2e, dr 1630 ft. Continental Oil Co. et al's Bennett 1, se nw 19-20n-1w, cored 4433-4440 ft; td 5115 ft in Wilcox; 200 ft water; 2000 ft oil in hole estimated ½ million gas, bailing.

OKFUSKEE COUNTY—Delton Oil's Fixico 1, sec 7-11n-8e, dr 1790 ft. Carter Oil Co.'s W. H. Dill 1, cnw se 2-11n-8e, loc.

OKLAHOMA COUNTY—Gypsy Oil Co. et al's Communtiy-Grant 1, cse nw 27-13n-4w, cored 6798-6843 ft, so 6798-6810 ft, base Pa. 6831 ft, dr 6868 ft. Springrose Dev. Co.'s Edwards 1, cse se 19-11n-1e, 400 ft drill pipe in hole, td 6540 ft in shale, sd.

OSAGE COUNTY—Empire O&R Co.'s 1, se ne 3-25n-3e, base Cleveland 2934 ft, 2600 ft oil and water in hole, dr 3040 ft. Peters Pet. Co. and Norbla O&G Co.'s 1, swc 15-25n-5e, set 10-in 1539 ft, dr 1640 ft. Norbla O&G Co.'s 1, nw se 31-24n-7e, set 6-in 1964 ft, dr 2039 ft.

PAWNEE COUNTY — George Thomas' School Land 1, swc 13-20n-5e, base of Bartlesville 3335 ft, sg in top and water in bottom, td 3438 ft; ur 6 in.

PITTSBURG COUNTY—Exchange Drilling Co.'s Chunn 1, se se nw 29-4n-14e, sd 350 ft.

PONTOTOC COUNTY — Riddle et al's Barnes 1, se nw se 21-5n-4e, td 2910 ft, fsg tools. Boyle et al's Newborn 1, sw ne 31-5n-4e, sand 2237 ft, so; 8-in 2174 ft, hfw. Jarnett Pet.'s Johnson 1, se nw 28-4n-4e, moving in rotary tools. Southern Oil Corp.'s Ladd 1, cnw nw 27-3n-7e, cellar. Emanuel, Rudman & Natcher's Mayer 1, csw se nw 7-3n-8e, sd 1525 ft in Wapanucka. Dandridge et al's Stafford 1, nwc 5-1n-6e, sd 680 ft. Gillette & Kroeger's Duver 1, nw se 1-1n-7e, mach. Paul R. Robb's Vittetoe 1, cne se 11-5s-4e, (owdd), set 10-in 306 ft, dr cement.

POTTAWATOMIE COUNTY — Stanolind and Amerada Pet. Corp.'s Goodman 1, sw ne ne 5-10n-4e, dr at 3190 ft. Phillips-Gypsy et al's Community Flynn 1, ne nw 17-6n-3e, rur.

SEMINOLE COUNTY—Tate & Starbuck's Heard 1-A, se nw 9-6n-7e, td 985 ft. Wrightsman Oil Co.'s Smith 1, nw se 25-10n-7e, loc.

STEPHENS COUNTY — Carter Oil Co.'s Hilderbrand 1, csw se ne 1-3s-7w, ru. Carter Oil Co.'s T. H. McCasland 1, cnw nw sw 22-1s-4w, rig.

WASHITA COUNTY — Anadarke Basin's Ash Wolf 1, ne sw 23-9n-17w, rur. Oklahoma Mid-Western's Dock 1, swc 21-8n-18w, rur.

WEST TEXAS

ANDREWS COUNTY — Fuhrman Pet. Corp.'s W. H. Boner 1-B, top anhydrite 1720 ft and top salt 1760 ft, wo, fsh 4493 ft. Honolulu Oil Co.-Llano Oil Co.'s J. E. Parker 1, Sec. 7, Block A-44, sp and sd. Humble Oil & Refining Co.'s J. W. Kuykendall 1, td 4511 ft, pb and given shot acid, sd to pump; R. M. Means 1, Sec. 2, Blk. A-35, elev 3167 ft, top Yates sand 2840 ft, top brown lime 3845 ft and white lime 3835 ft, sd to set 6⅝ cas 4082 ft; B. S. Walker 1, lcn.

BORDEN COUNTY—Continental Oil Co.'s Clayton-Johnson 1, dr ws 600 ft.

BREWSTER COUNTY — C. M. "Dad" Joiner et al's W. J. McEntire 1, dr 1705 ft.

COKE COUNTY—W. Monroe Hooper et al's S. W. Gaston 1, dr 2510 ft.

CROCKETT COUNTY—A. R. Eppenauer Drlg. Co.'s W. Owen 1, lcn.

CRANE COUNTY — Cordova Union Oil Corp.'s Jax Cowden 1, Sec. 13, Blk. "X", elev 2524 ft, salt at 1140-1770 ft, dr 2325 ft. Gulf Prod. Co.'s E. N. Snodgrass 1, Sec. 1, Blk. B-25, Waddell area, sp and sd.

CULBERSON COUNTY — Anderson-Prichard Oil Corp.'s M. W. Borders-R. Stone 1, Sec. 34, Blk. 69, lcn.

DAWSON COUNTY—Ray A. Albaugh et al's John Robinson 1, dr 2390 ft.

ECTOR COUNTY—C. J. "Red" Davidson et al's H. E. Cummins-Empire 1, elev 3294 ft, top Yates sand 2740 ft, top gray lime 3285 ft dr with hfo 4455 ft. Landreth Prod. Corp., et al's Clarence Scharbauer 1, top salt 1465 ft, dr 2880 ft. O. C. Harper & R. L. York's W. F. Bates 1, set cas, td 3760 ft.

FISHER COUNTY—E. T. Campbell et al's W. R. Bishop 1, rog.

GLASSCOCK COUNTY—Steve Currie et al's W. H. Underwood-Joe Calverly 1, Sec. 24, Blk. 36, sp and sd. John I. Moore Pet. Corp. & Loffland Bros. et al's L. S. McDowell 1, elev 2534 ft, top lime 2137 ft, sr acct. hfw 2815 ft.

TOM GREEN COUNTY—Southwestern Exploration Co.'s J. W. Bennett 1, elev 1792 ft, ur 2536 ft.

HOWARD COUNTY—Southern Oil Corp.'s J. T. Frazier 1, dr 2165 ft.

IRION COUNTY—Melrose Oil Co.'s J. D. Sugg 1, sp and sd. J. P. Williams & D. M. Short's D. S. Gentry 1, co 1220 ft.

MENARD COUNTY — Jas. L. Duffy and John C. Chidster's W. J. Wilkinson 1, sp and sd.

PRESIDIO COUNTY—Luderman Bros. Oil Corp. (was J. F. Sadler & Presidio Pet. Co.'s) R. I. Bledsoe 1, co to dd fr 507 ft.

PECOS COUNTY — Mac T. Anderson et al's T. N. McKenzie 1, sd hfo 1365 ft. Trans-Texas Oil Co.'s C. M. Caldwell 1, sd 320 ft. Tex-Mex Pet. Corp.'s G. W. Wallings, Jr., 1, sd 1230 ft.

REAGAN COUNTY—E. P. Kirschner et al's W. H. White-McIntosh 1, top lime 2809 ft, sd 3165 ft.

REEVES COUNTY—Hugo Freels Oil Co.'s I. B. Greeman 1, pb from salt water 3980-3985 ft to 3980 ft; shot and sd with show oil. Grisham-Hunter Corp.'s Fee 1, top salt 1780 ft, jkd 3830 ft, skidded and sp. C. H. Lockhart et al's W. D. Johnson 1, lcn abn.

RUNNELS COUNTY—Daniels et al's W. F. James 1, dr 1075 ft. Melrose Oil Co.'s Mrs. L. P. Wood 1, sd 1430 ft. W. D. Sawyer et al's H. Giesecke-Russell 1, fsh 2033 ft. F. D. Williamson et al's J. L. Elkins 1, sd 1400 ft.

SCHLEICHER COUNTY—J. M. Cooper-Geo. T. Wilson et al's Bert Page 1, elev 2270 ft, est 6,000,000 cu ft wet gas after shot 270 qts nitro at 5400-5506 ft, td 5573 ft. Humble O&R Co.'s Ike Honig 1, lcn.

SCURRY COUNTY—H. H. Coffield and W. S. Guthrie's A. D. Dodson 1, dr 1115 ft. Paul C. Teas et al's B. H. Chapman 1, sp and sd.

STONEWALL COUNTY—Merry Bros. & Perini, Inc. and Humble's Williams 1, sp and sd.

TAYLOR COUNTY—H. Crissman et al's Abilene fee 1, sd 505 ft. N. E. Davenport et al's R. H. Anderson 1, top lime 1860 ft, sd 2003 ft.

TERRELL COUNTY—Marion Briggs et al's Joe Kerr 1, sd 800 ft. H. H. Sides and W. A. Sudderth's J. H. Phelps-Bates 1, elev 2185 ft, sd 5635 ft.

UPTON COUNTY—Gulf Prod. Co.'s J. T. McElroy 103, elev 2625 ft, top lime 2620 ft, top Ordovician section 10, 167 ft, dr 10,570 Broderick & Calvert, Inc.'s, Homer (La.) Nat'l Bank 1, fsh 660 ft.

WARD COUNTY—H. R. Randall-L. G. Bradstreet & Bert Fields' L. W. Sheppard-Monroe 1, co 1000 ft.

WINKLER COUNTY—R. S. Matthews et al's Evans 1, lcn. D. C. Evans et al (was Liner Drlg. Co.-Wilson's) Seth Campbell 1, co to dd fr 4639 ft.

EAST TEXAS

ANDERSON COUNTY—H. L. Hunt Prod. Co. et al's A. L. Temple-C. A. Miller 1, S. Sanchez sur 2-10, Long Lake area, lcn. Sun Oil Co.'s Robt. N. Erskine 1 (5203-ac), Sam C. Box sur, Navarro Crossing, elev 197 ft, dr 1600 ft.

CASS COUNTY—J. D. Kneen et al's E. M. Ball 1 (160-ac), Cass Co. School Lands sur, sp and sd. John R. Hadley et al (was Pigg-Davis-Joiner's) Ray Bryan 1 (80-ac), Al Latimer sur, elev 343 ft, Pecan chalk 2316-2638 ft, sd for water 2960 ft. Remley-Nelley & R. Kamon Group No. 1's Mrs. I. O. Savage 1 (121-ac), Mary Patterson sur, elev 351 ft, Pecan chalk 2030-2488 ft, sd 4016 ft. United Production Corp.'s T. J. Walton 1, J. Coleman sur, Pecan chalk 2079-2421 ft, dr shaley-lime 3895 ft. H. F. Wilcox et al's S. A. Orr 1 (316-ac), G. W. Morris sur, elev 381 ft, sd for heavier rig, td 3887 ft.

CHEROKEE COUNTY—K. Hughes-Zilkey & McCulloch et al's Jess Bradford 1 (50-ac), J. Armendaris sur, sd for water 3200 ft. Jacksonville O&G Co.'s H. D. Henderson 1 (40-ac), J. Pineda sur, rig. W. L. Stearns et al's W. L. Stearns 1 (89-ac), S. A. Maverick sur, Boggy Creek field, lcn. C. & G. Oil Co.'s New Birmingham Dev. Co. 1, J. F. Timmons sur, elev 493 ft, Pecan 3884-4248 ft, top Austin chalk 4800 ft, dr 4900 ft. T. J. Wood & Young's New Birmingham Dev. Co.-Shell 1, (160-ac), Levi Jordan sur, elev 432 ft, Pecan chalk 3985-4306 ft, pb fr 5118½ to whipstock and re-dr sand, recompleted 6-28-34 flowing og&w at 5124 ft. South Gulf Oil Corp.'s Bailey 1 (80-ac), L. Rhodes sur, sd 1000 ft.

FREESTONE COUNTY—Clyde W. Creighton & Co.'s W. A. Holley 1 (80-ac) A. B. & M. sur, elev 399 ft, dr sandy-shale 5580 ft. American-Liberty Oil Co. et al's Trinity Farm Securities 1, (80-ac), G. B. Bonham sur, sw of Cayuga, rog. Walter L. Goldston et al's E. M. & C. H. Watson 1, R. D. Price sur, lcn. J. E. Milburn & J. B. Patty's S. E. McAshan 1 (40-ac), S. G. Diaz sur, Blk. 178, sp and sd. Trinity Farm Securities Co.-Hunter-Rowe's Trinity Farm 1, R. M. Williamson sur, sw of Cayuga, rog. Trinity State Oil Co.'s Trinity River 1, sw of Cayuga field, lcn.

HENDERSON COUNTY—Great State Oil Corp. (Dick Andrade, III's), R. Sid Ansley 1, N. B. Thompson sur, sp and sd.

HOPKINS COUNTY—D. A. Hale et al's L. M. Hall 1 (70-ac), A. Caro sur A-143, sp and sd.

HOUSTON COUNTY—Boone et al's Trinity State Bank 1 (142-ac), Chas. McEllis sur, dk.

HUNT COUNTY—G. S. & S. Co.'s Oscar Popper 1, Jas. Moore sur No. 544, sp and sd. L. G. Priest (was J. H. Waggoner O&G Co.'s) J. R. Love 1 (95-ac), J. Grilisky sur, elev 558 ft, dr lower Woodbine section 3530 ft. M. O. Shawver et al's J. H. Jones 1 (99-ac), Lydia Ferguson sur, Austin chalk 1180-2035 ft, elev 355 ft, sd 3104 ft.

LAMAR COUNTY—Cole-Waggoner et al's W. B. Martin 1 (132-ac), J. Deck sur, sd 2500 ft.

LIMESTONE COUNTY—J. E. Schultz et al's R. Ward 1 (23-ac), H. York sur, rig.

MORRIS COUNTY — H. N. H. Drilling Co.'s E. Hall 1 (177-ac), Levi Jordan sur, top Pecan chalk 2360 ft, sd repairs 2930 ft. C. L. Simpson et al's P. M. Staggers 1, J. D. Nelson sur, dr 2440 ft.

NAVARRO COUNTY — Bennett Bros. et al's T. E. Stewart 1 (83-ac), W. R. Bowen sur, dr 410 ft. L. N. McCulloch et al's C. D. & J. L. Berry 1 (35-ac), W. W. Moss sur, sd 625 ft. R. L. Wheelock-J. L. Collins-Humble-Magnolia's I. N. Cerf 1 (50-ac), Jas. Smith sur, Trinity sand test on w edge Corsicana-Powell field, top Austin chalk 2860 ft, top Woodbine section 3800 ft, dr 3850 ft.

RAINS COUNTY—J. W. Halsell and J. K. Wadley et al's T. F. Jones 1 (22-ac), BBB&C Ry. sur, elev 425 ft, top Nacatoch sand 1610 ft, Pecan chalk 2503-2700 ft, dr chalky-shale 3960 ft.

RUSK COUNTY—G. A. Hathaway et al's Gray 1, Jas. McLain sur, elev 315 ft, top Georgetown lime 3140 ft, sd 4460 ft. Geo. F. Hudson et al's J. H. Phillips 1-A, N. Villareal sur, top Pecan chalk 2412 ft, sd for csg, claim good so in Woodbine sand 3616-3622 ft.

SMITH COUNTY — Cochran & Williams' Mrs. J. M. Dean 1 (100-ac), B. Moore sur, lcn. B. F. Phillips et al's Gibbons Mfg. Co. 1, J. M. Garcia sur, elev 304 ft, sd 3830 ft. Preston Rose D. E. Stimson et al's E. Wiggins 1, H. K. Day sur, elev 479 ft, Pecan chalk 3040-3420 ft, dr 4115 ft.

UPSHUR COUNTY—G. H. O. Oil Co.'s J. M. Floyd 1 (177-ac), Robt. Raiford sur, top Pecan chalk 2590 ft, dr 2760 ft. Lanier & Moore's M. Vaughn 2, P. B. Standifer sur, sd 1042 ft. B. G. Barnett & Randerson's W. S. Jones 1 (15-ac), Jas. Dunn sur, elev 282 ft, Austin chalk 3660-3707 ft, sd 3731 ft. Joe Papadakis et al's L. V. Towery 1 (4-ac), Wilson L. Parmer sur, Pecan chalk 2703-3065 ft; Austin chalk 3699-3749 ft, abd in sw sand 3764-3780 ft.

VAN ZANDT COUNTY—B. F. Blackman et al's C. E. Dorrill 1 (35-ac), C. E. Rivers sur, sd 1340 ft. E. B. Evans et al's Mrs. J. P. Palmer 1 (140-ac), N. C. S. L. sur, lcn. C. A. Gilliam, Virgil Whitworth & Arthur Allen's A. T. Bass 1 (16-ac), Wm. Hart sur, top Woodbine section 4210 ft, elev 480 ft, co to dd

4236 ft. Martin & Evans' J. M. Palmer 1, (69-ac), Blk. 13, N. C. S. L. sur, sp. W. E. McKinney et al's V. T. Davis 1-A (3.66-ac), p. 1 bbl oil daily, td 1166 ft. Meyer & Rauch's P. E. Neil 1, (47-ac), lcn. S. E. Miller Co.'s J. M. Palmer 1 (59-ac), dr 210 ft. Peden-Olson Oil Co.'s W. S. Brannon 3 (45-ac), rig; Palmer 1, sd 1270 ft. Skinner et al's D. F. Cade 1 (28-ac), sd in Nacatoch sand 1264-1265 ft. Van Zandt Synd.'s Dr. C. S. Coker 1 (60-ac), sd so&g, td 1206 ft. J. D. Wrather et al's G. W. Carter 2, (10-ac), rig.

WOOD COUNTY—D. T. Cauble & Mrs. J. C. Thompson's N. G. Bobbett 1-A (50-ac), Daniel Fuller sur, Mineola area, elev 497 ft, Pecan chalk 2950-3234 ft, abn 5554 ft. Alex M. Snyder et al's J. T. Holmes 1 (122-ac), A. N. McKnight sur A-399, sd for water 3485 ft.

SOUTH TEXAS

ATASCOSA COUNTY—J. R. B. Moore's Reiley 1, 1011 ft nel and 1104 ft sel 102-acre tract, Anthony sur, sp.

BANDERA COUNTY—A. P. Crane & Co.'s Watson 1, sd 1330 ft. Peerless Oil & Gas Co.'s R. G. Garrison 1, Sec. 506, GC&SF sur, dr 270 ft.

BASTROP COUNTY — Marts & Beavens' Davenport 1, Thomas Garretson Sur. No. 19, sd 2315 ft, hard, dry serpentine. Nelson Pruett's J. H. Carroll 1, A. Mays Sur. No. 19, flowed 200 bbls oil in 40 minutes from sandy lime 2238-42 ft, shut in and run tubing; td 2260 ft, top serpentine 2242 ft.

BEE COUNTY — Caesar Oil Co.'s W. E. Ruckman 1, F. Lewis sur, fsg 2890 ft; Pullin Estate 1, F. Lewis sur, lcn. R. A. Davis et al's Baptist Church 1, F. Lewis sur, ru and sd. Dirks Bros. et al's Mrs. Wm. Rapp 1, Blk. 5, Ragley sub, Uranga grant, dr 2650 ft. Falvey et al's Gardner 1, F. Lewis sur, ru. R. H. Feltner et al's Albert Theis 1, Castano Revis sur, sp, set sur csg, wait on rig. Heep Oil Corp.'s J. C. Wood 1, P. Crain sur, dr 4815 ft. Howeth and Swiger's Marie Schramm Estate 1, Hugh O'Brien sur, dr 1650 ft. Houston Oil Co.'s Niehaus 2-B, BS&F sur, set csg 3647 ft. Edwin M. Jones' Robinson 1, 160 ft sl and 330 ft el sw sw Sec. 5, Ragley sub, J. M. Uranga Grant, bldg dk, dig pits. Phillips Petroleum Co.'s T. P. Morgan 1, H. E. Eyles sur, conditioning mud to dd from 6519 ft. R. J. Worthington et al's Rutledge 1, B. Q. Hadley sur, sp and sd.

BEXAR COUNTY — Berry-Hays Corp, of Texas' City of San Antonio 1, G. Nunes Sur. No. 151, fsg for 3 inch ds 946 ft. A. M. Blume's L. Ridder 3, J. M. Baerrera Sur. No. 58, dr 450 ft. Briggs & McPhee's Florence Lamb 1, Manuel de Luna Sur. No. 4, dr 670 ft, show little o&g; Randolph Carter 1, M. de Lunes sur, to sp about July 15. J. Ross Boles' Dillon 1, M. Le Luna sur, ds stuck 1082 ft. M. J. Crouch's Gaston and Cool 1, Ricardo sur, dr 500 ft. R. V. Hill's Beck 1-A, dr 200 ft. F. & H. Oil Co.'s George W. Henrichson 1, County Block 4191, sd 779 ft. H. A. Pagenkopf's Estate of Maria Schultze, Juan Montez sur, lcn. C. A. Smith's H. J. Lamm 1, Jose de la Garza grant, sd 982 ft, showing little o&g. Texas Petroleum Co.'s E. B. Carruth 1, 416 ft wl and 210 ft s road, in 667-acre tract, F. Rolen Sur. No. 48, ru. Thelma Oil Co.'s Watson 1, dk. Weilbacher et al's A. Ernst 1, J. Christopher sur, dr 320 ft.

BROOKS COUNTY—Mrs. Florence East's G. Madrigal 1, Share B, Rafael Garcia Salines Grant, dr 400 ft.

CALDWELL COUNTY—S. S. Cargill's W. Damerau 2, D. Cooper sur, td 2262 ft, 2 ft in Edwards lime, prep to dr out plugs, show for producer. Kurz Oil Producing Co.'s C. Kurz Ranch 1, Klecamp sur, no report. F. P. Hynes' G. Storey, E. Berry sur, making lcn. Wagener, Daniels & Stieren's S. M. Blackwell 1, John Roe sur, dr 2100 ft.

CALHOUN COUNTY — Continental Oil Co.'s American Nat'l Realty Co. 1, Blk. C, Sec. 6, dr 4820 ft. J. H. Meek's Rydolph Adam, V. Garcia sur, lcn. Southwest Oil Corp.'s E. H. Welder 1-B, Day Land and Cattle Co. Sur. A228, dr 5184 ft.

DE WITT COUNTY — Keystone Royalty Co.'s L. T. Burns 1, Nicholas McNutt sur, dr 2550 ft.

DUVAL COUNTY — Buffalo-Texas Drlg. Syndicate, Inc.'s, T. V. De Saenz Escobar 1, San Francisco Grant, Share 6, td 3223 ft, running formation test. J. H. Bute's H. Beall 1, Sec. 572, lcn. Chiquita Oil Co.'s Richardson 1, Blk. 3, Sec. 3, missed gas sand, sd 1785 ft. S. B. Cloyes and Alpha Petroleum Co.'s E. R. Hagist 1, Sec. 265, 330 ft nl and 31 Blk. 10, dr 1450 ft. Continental Oil Co.'s R. Driscoll Estate 1, Sec. 448, snd 2636-40 ft, testing. Tom Graham & Texon Royalty Co.'s George B. Parr 1, 2000 ft nl and 2500 ft el of 479 acre tract, J. Piotevent Sur. No. 185, lcn. Frank Gravis et al's Hubbard 1, 990 ft sl and 330 ft wl Sec. 83, sp. Harrison Oil Co.'s Serna 2, 936 ft sl and 2236 ft el BS&F Sur. No. 523, lcn. K. F. Hasselman's Moody 1, Sec. 60, snd 2380-83, test little oil. Lewis & Beer's W. R. Peters 1, Blk. 18, Sur. 27, dr 1800 ft. W. C. McBride, Inc.'s, E. R. Hagist 1, 330 ft nl and el s se Sec. 1, ru. O'Byrne & Jennings' Juan Benavides 1, Blk. 6, Sec. 355, dr 112 ft in rock. Sun Oil Co.'s Moreno 1, Sec. 540, td 5513 ft, reaming; Weiderkehr 62, Sec. 361, dr 2835 ft.

EDWARDS COUNTY—Lausen & Lausen's Turney 1, CCSD&RGNG Ry. Sur, Blk. nw, fsg 165 ft. H. H. Sides' Turney 1, CCSD&RGNG Ry. Sur. No. 164, Blk. nw, td 522 ft, wait on csg.

FRIO COUNTY — Amerada Petroleum Corp.'s Halff and Oppenheimer 2, J. H. Gibson sur, td 6098 ft in Edwards lime, prep to dd to Glenrose.

GILLESPIE COUNTY—Ed L. Nixons Lindig 3, J. Guerra Sur. No. 41, sd 292 ft.

GOLIAD COUNTY — Duval Oil Corp. & Fred K. Foster's Lucy Borden 1, 330 ft nl and el 129-acre tract, Victor Blanco sur, 6 mi ne North Pettus field, lcn. Diamond Half Oil Co.'s Runge National Bank 1, G. B. Meyers sur, snd 3737-44 ft, ream to test. Jane Oil Co.'s Grady Smith 2, B&B Survey No. 35, coring for sand 3704 ft. Kemp Oil Co.'s Weldon and Lackey 1, 1694 ft nwl and 1607 ft swl of 1000 acre tract, Javaiano Gomez sur, dk up, dig pits. P. H. Wilson's Lackey & Weldon 1, 330 ft nwl and swl Javaiano Gomez sur, lcn.

GONZALES COUNTY—H. H. Weinert's August Kallies 1, Ira Nash sur, move in rig.

GUADALUPE COUNTY — Diamond Half Oil Co.'s A. J. Ball 1, L. H. Peters sur, dr 450 ft. Hollifield et al's George W. Bailey 1, J. C. King sur, 2 miles sw Luling field, top chalk 1845 ft, top Edwards lime 2190 ft, total depth 2193 ft, took saturated core, prep to test. Looks like possible new field.

HIDALGO COUNTY—Davis and Harrison's Mrs. L. George 1, Tract 13, Porcion 41, sd 3154 ft. Rogers et al's Fairbanks, near Hidalgo, dr 200 ft. Union Sulphur Co.'s American Rio Grande Land and Irrigation Co. 1, Lot 2297, Blk. 59, North Capisallo District, dr 6575 ft. Woods et al's John Lawrence 1, Tract 274, Porcion 39, sd 2060 ft.

JACKSON COUNTY — Encino Gas Co.'s Drummond 1, Vanderbilt, Musquiz sur, sp; State Realty and Investment Co. 1, Vanderbilt townsite, ready to spud; Simon and Seidel 1, Musquiz sur, td 5585 ft, pb 5100 ft.

JIM HOGG COUNTY—Atkins & O'Neil's W. W. Jones 1, Blk. 81, Share 27, Holbein sub, Hinijosa Grant, dr 1700 ft. French Oil Corp.'s Tom East 1, B. J. Leyendecker sub No. 2, Los Moritas Grant, ru, prep to sp. Sun Oil Co.'s Guerra 1-E, Share H-14 A, Cuevitas Grant, coring 3200 ft.

JIM WELLS COUNTY—John F. Camp's B. W. Owens 1, Sec. 11, td 500 ft, wor. Magnolia Petroleum Co.'s A. A. Seeligson 1, Sec. 216, snd 3242-57 ft, dst 1½ joints oil, ½ joint mud, setting csg.

KARNES COUNTY — Auld & Richer's Schaeffer 1, 1200 ft sl and 300 ft wl of 447-acre tract in A. W. Belvin sur, lcn. Bryce McCandless' First National Bank of Beeville, G. B. Meyers sur, move in rig. George A. Ray's Mrs. S. E. Radford 2, coring 3625 ft.

KENDALL COUNTY—Walter Bradley's W. Werner 2, J. F. Torrey sur, fsh 450 ft.

KERR COUNTY—Edmiston and Walker's Whitworth 1, Sec. 1439, sd 525 ft, to set 12½ csg. G. F. Schreiner's Jeff Love 3, Jose Martinez Sur. No. 1594, fsh job 1030 ft, recover tools, re-dr.

LA SALLE COUNTY—Dupree Dountain's R. J. Kroschewsky 1, A. G. Starty sur, dk.

LEE COUNTY—James E. Pederson's C. A. Turner 1, David Hudson sur, dr 4520 ft.

LIVE OAK COUNTY—J. H. Durbin's P. J. & W. J. Marbach 1, 1800 ft wl and 450 ft sl, 428-acre tract, Stephen Hays sur, prep to sp. Jane Oil Co.'s H. L. Lark 2, Block 2, E. W. B. Scrugham sur, td 1027 ft, trying to cut off intrusion of shale by filling hole with gravel. Houston Oil Co.'s Cartwright 25, dr 4895 ft. Lion Oil Refining Corp.'s McNeill 1, set 324 ft sur csg, woc. Unit Oil Co.'s A. Terrell 1, Christopher Scanlon sur, dr 400 ft.

MAVERICK COUNTY — Strohman and Wright's Debonar 2, sd 790 ft. Wright and Maxwell's L. Little 1, Blk. 5, Sec. 65, r 720 ft.

McMULLEN COUNTY—C. A. Hall et al's H. L. Lark 2, E. W. B. Scrugham sur, td 1053 ft, still trying to cut off water. A. P. Pierce's H. L. Lark 1, Blk. 41, E. W. B. Scrugham sur, moving in. Stewart, Smith & Storey's Jacob 1, John Fadden Sur. No. 8, coring below 900 ft.

MEDINA COUNTY—Scoggins and Sanders' L. W. Burrell 1, M. E. Gage Sur. No. 395, dr 1375 ft.

NUECES COUNTY—Beaudoin and Daily's Knox 1, dk. Ed Buckley's Noakes 1, sp. Benedum & Trees' J. O. Bickham 1, G. Faris sur, fsh 5900 ft. Nutex Oil Co.'s King 1, Sec. 24, Richard King Farm Lots, td 6021 ft, flowing considerable sw and gas. Stanolind Oil and Gas Co.'s Stratton 1, Sec. 13, Abajo Grant, set 13 in 683 ft, wocs.

REAL COUNTY—H. J. Heartwell's Mrs. M. S. Perry 1, Sec. 175, AB&M sur, dr 2525 ft. Holland Oil Co.'s Peck 1, E. Lopez Sur. No. 44, td 5351 ft, wait on csg. Houston Oil Co.'s Rooke 15, Thomas Mullen sur, td 4935 ft. wocs; Mrs. M. H. Ryals 6, Refugio townsite tracts, 350 ft wl and 1050 ft nl, 40-acre tract, old gasser, to dd to 4950-foot sand; W. J. J. Heard 14, Refugio townsite tracts, coring 4945 ft. Humble Oil & Refining Co.'s Fannie Heard 4, M. J. Ximines sur, dr 5110 ft. G. Jeffrey's J. F. Power 1, J. Garza & Vidauri sur, sd 4523 ft. Nesral Oil Co. and Baymore's V. E. Heard 1 (2), M. J. Ximines sur, dr 5216 ft. Quintana Petroleum Co.'s T. O'Conner 1, J. M. Swisher Sur. No. 3, td 5580 ft, wait on pipe line connection to gauge. Standard Oil Company of Kansas' Thomas O'Conner 1, N. S. Crunk sur, td 5947 ft, flowing, not gauged. United Production Corp.'s W. J. Fox 14, Hews and Brown sur, coring 5965 ft; W. J. Fox 15, Hews and Brown sur, dr 5000 ft in sdtr hole; Mrs. M. F. Lambert 8, Hardwick sur, Blk. 6, dr 4515 ft; Heard 7, 231 ft s No. 5, Refugio townsite, old gasser, to deepen to 4950 foot sand.

SAN PATRICIO COUNTY—Atkins, O'Neil and Continental Oil Co.'s E. Welder 1-A, Block 2, V. T. & Pedro Villareal sur, dr 4030 ft; Welder 2, Juan Hart sur, dr 2570 ft. Beasley and Maxwell's Saddler 1, Sec. 32, T. Perez sur, sd for water at 5030 ft. Circle W. Oil Co.'s E. H. Welder 1, tract 5, Villareal sur, td 5373 ft, flowing salt water and oil, tubing pressure 1550 lbs, casing pressure 1850 lbs. Diamond Half Oil Co.'s Ragsdale 1, George A. Paul Survey No. 58, sp. Heep Oil Corp.'s R. H. Welder 1, 9920 ft sl and 3000 ft el of 7650 acre tract, Loupy sur, ru. Petrol Corp.'s Welder 1, de la Garza sur, ru. Plymouth Oil Co.'s Welder 2-A, J. & F. Portillo survey, snd 5427-29 ft, dst 5418-29 ft, test 650 lbs 8 min, 10 ft fluid in ds, ½ oil remainder mud and fresh water; Welder 1-B, Musquiz sur, dr 3950 ft.

STARR COUNTY—R. S. Bollings' M. M. Garcia 1, Sec. 918, testing 800 ft. J. Garfield Buell's Guerra 1, Sec. 10, sd 700 ft for water. Circle W. Oil Co.'s Block Bros. 1, Blk. 13, sp. Jim Cloud's J. Rodriguez 1, Por. 88, Share 35, td 300 ft, wocs. Goodwin and Yantis' Kelsey Bass 6, Sec. 4, Por. 86-87, dr 600 ft. H. C. Harter's Sanches et al 1, Share 72, Por. 72, sd. Smith-Tex Oil Co.'s Starr County Cattle Co. 1, Blk. 24, Por. 89, dr 2130 ft. Sun Oil Co.'s M. Guerra 6-C, Sacatosa Grant, dr 3200 ft. Weekly Oil Co.'s M. M. Garcia 1, Por. 89, Share 40, dr 2925 ft. E. L. Younkins' Kelsey Bass 1, Blk. 19, Por. 87, set sur csg, re-dr.

TRAVIS COUNTY—Humble Oil & Refining Co.'s Mrs. Katherine Wells 1, James P. Kemp sur, coring dry serpentine 1002 ft.

UVALDE COUNTY—Frank A. Brown's J. A. Millikan 1, Antonio Cruz sur 383, sd 940 ft. I. L. Evans' Dismukes 1, J. Kemp Sur. No. 652, sd 130 ft. Evans and Thompson's Farris 1, John M. Hammond sur, sd 1050 ft. Humble

Oil & Refining Co.'s R. L. Anderson 1, J. J. Guerra sur, top Trinity 2560 ft, dr 2615 ft. T. T. Word's K. S. Truelove 1-A, Elam sur, dr 710 ft, topped Glenrose 600 ft.

VAL VERDE COUNTY — Southwestern Exploration Co.'s Fawcett 1, Blk. 1, Sec. 14, GC&SF sur, moving in tools.

VICTORIA COUNTY — Gulf Production Co.'s Keeran 5, M. de Leon sur, dr 1500 ft. Humble Oil & Refining Co.'s Mitchell 2, 6500 ft nwl and 700 ft swl 5000 acre tract, P. Benavides sur, pits being dug, water well dr; A. M. McFaddin 1, C. O. Edwards sur, dr 510 ft; Mrs. Agnes Murphy 1, L. Gibson sur, dr 3460 ft. Nutex Oil Co.'s Zimmer 1, R. Manchola Grant, set sur csg. Steen Drilling Co.'s McCormick 1, SA&MG Ry. Survey No. 3, td 6500 ft, testing. Texas Co.'s A. M. McFaddin 2, C. M. B. Hoyt sur, dr 3068 ft.

WEBB COUNTY—Cole Petroleum Co.'s R. Benavides 84, 160 ft sl and 100 ft el 40-ac tract, Blk. 2, Sec. 412, lcn; R. Benavides 85, Gallagher homesite, ru. Fidelity Exploration Co.'s R. Saldiver 1, Block 12, Sec. 657, J. V. Borrego Grant, sd 804 ft. Gholson Drilling Co. & L. N. Shaw's Yeager 1, Sec. 346, dr 700 ft. John D. Manley's F. Benavides 1, M. E. Hale sub, Block 318, M. Arispe Grant, dr 2800 ft. United Production Co.'s A. M. Bruni 1, Block 43, Sec. 8, Arispe Grant, testing 2551 ft. C. E. Wolcott's Diana Green 1, Sec. 233, dr 600 ft.

WILLIAMSON COUNTY — J. O. Dore's Schulz and Freitag 1, Davilla 10 League sur, lcn. J. W. Johnson and J. Ray's M. D. S. Oxford 1, Williams sur, dr 350 ft.

WILSON COUNTY—Ben M. Burger, Trustee's O. F. Burney 1, Arocha Grant, prep to sp; J. A. Darling 1, Arocha Grant, wo 680 ft.

ZAPATA COUNTY—O. W. Killam's Bruni 1, Sec. 13, Blk. 14, dr 2250 ft. R. B. Morrison's Los Burros Ranch, Block 14, Por. 19, td 2170 ft, csg set 2040 ft, wocs. Robert Newton's Killam 1, Blk. 6, Sec. 182, sd 1605 ft.

TEXAS GULF COAST

BRAZORIA COUNTY—Holt et al's Griffith 1, J. B. Baily sur, sd 4173 ft. W. H. McCarthy et al's Natl Life Ins Co. 1, H. Austin No. 4, A-21 sur, ru. Amerada Pet. Corp.'s Houston Farms Dev. Co. 1, L. G. Bachelder sur, set csg 65 ft, dr below 1100 ft. Jack Clark's Speer 1, J. F. Pinckney 1, sd 2900 ft.

BURLESON COUNTY—McDavid & Pressley, Tr.'s, Atascosa State Bank 1, J. Reed sur, lcn. Southern Seaboard's Coulter 1, A. Kennon sur, dk.

CHAMBERS COUNTY—John H. Carreker's Weaver 1, A. Weaver sur, tearing down rig, td 2550 ft.

FT. BEND COUNTY — H. M. Naylor's Gehr 4, Kenney sur, sd 5406 ft, while the same operator's Gehr 5, S. Kenney sur, lcn. Gem Oil Co.'s Farmer 1, Robt. Hodge sur, preparing to spud.

GALVESTON COUNTY—C. R. & G. Drilling Co.'s Spoor 1, W. K. Wilson sur, sd 6577 ft. Humble O&R Co.'s Maco Stewart 1, J. Sellers sur, dr shale 4515 ft.

HARDIN COUNTY—Pharr et al's Bernard 1, H&TB No. 68 sur, sd 4800 ft. Alpha Pet. Co.'s Steinberger 1, H. Williams sur, taking 13 ft core, td 6823 ft. Wilcox Oil & Gas Co.'s Sternberg 1, G. Dorsey No. 1 sur, dr shale 4480 ft.

HARRIS COUNTY—Foster et al's Johnson 1, C. C. & S. F. sur, sd. General Crude Oil Co.'s Rorick 1, J. G. Ogburn sur, dr 1170 ft. Southland Oil Co.'s Calney 1, set 15½-inch csg 205 ft, dr 870 ft. Loring Oil & Gas Co.'s Westmoreland 1, J. M. Swisher sur, dr shale 4200 ft.

JEFFERSON COUNTY — Sun Oil Co.'s Long 1, John Blair sur, r 7140 ft.

LIBERTY COUNTY — Gulf Prod. Co.'s Kirby C-2, J. Pleasant sur, made 40 barrels of oil, 20 barrels sw, went dead. Same company's Kirby C-4, in the same sur, set csg 5860 ft. Liberty Independent Oil Co.'s J. M. Neal 1, S. Strong sur, dr shale 2000 ft.

MATAGORDA COUNTY — Dr. Griffith's Fee 1, W. E. Bell sur, ru and sd.

MONTGOMERY COUNTY—Baker et al's Benker 1, L. H. M. Washington sur, Deering & Frazier's L. Hicks 1, T. Taylor sur, sd.

ORANGE COUNTY—Texas-Louisiana Oil Co.'s Lutcher Moore Lbr. Co. 1, Ben Johnson sur, sd 5050 ft.

POLK COUNTY—Howard Dailey et al's Knox 1, F. Chairs sur, sd 56 ft.

SAN JACINTO COUNTY — Turnbull & Irwin's Peoples State Bank 1, J. D. Martinz No. 4 sur, dr sh 4127 ft. Phillips Pet. Co.'s Foster 1, G. Taylor sur, dr 4030 ft.

TYLER COUNTY—Boone Wallace Lane's J. A. Crews 1, S. L. Graham sur, coring 1300 ft. Capps & Sloane's Vaughn 1, J. McFarland sur, abd 2929 ft.

LOUISIANA GULF COAST

ACADIA PARISH — Superior Oil Co.'s Arceneaux 1, sec 28-8s-3e, dr sand 7695 ft; Leo Kahn 1, sec 35-8s-3e, sdtr 2280 ft; Richard Lovenskie 1, sec 34-8s-3e, dr sand and lime 7562 ft; .E Mire 1, sec 33-8s-3e, preparing to core at 7868 ft. Standard Oil Co. of Kansas' Nouton 1, sec 34-8s-3e, dr shale 1580 ft. Woodley Pet. Co.'s Daigle 1, sec 34-7s-1e, dr shale 4245 ft.

BEAUREGARD PARISH — Federal Pet. Co.'s Lutcher Moore 1, sec 4-7s-12w, dr shale 6660 ft. F. W. Martin et al's Cochran 1, sec 34-4n-12w, sd shale 6268 ft. Federal Pet. Co.'s Lutcher Moore B-1, sec 4-7s-12w, lcn.

CALCASIEU PARISH — Union Sulphur Co.'s Barbe Est. 1, sec 11-9s-8w, dr shale 5378 ft.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake 10-A, sec 1-14s-9w, dr shale 5860 ft.

JEFFERSON DAVIS PARISH—Tide Water Oil Co.'s Aimea Bourgois 1, sec 28-9s-5w, woc 4160 ft. Humble O. & R. Co.'s Devilbiss 1, sec 14-9s-4w, dr shale 3111 ft. Shell Pet. Corp.'s Jarnigan 1, sec 12-9s-4w, dr shale 4552 ft.

LA FOURCHE PARISH—Ben Coyle's La Fourche Ld. 1, sec 32-18s-22e, temporarily abd 5000 ft. R. L. Gay tr's Gedchaux 1, T-15s, R-19e, dr shale 3916 ft.

PLAQUEMINES PARISH—E. A. Howe's Buras Levee 1, sec 26-21s-30e, dr gumbo at 882 ft.

ST. LANDRY PARISH—Superior Oil Co.'s Iseringhousen 1, sec 35-8s-3e, running liner 7850 ft; Marcellos Savoil 1, sec 27-8s-3e, dr shale 6898 ft. R. W. Hutchins et al's Whitman Lbr. Co. 1, sec 15-5s-6e, abd 3696 ft.

ST. MARTINS PARISH—The Texas Co.'s St. Martin Ld. Co. 1, sec 17-8s-7e, dr shale 7170 ft.

ST. MARYS PARISH—Edwards Drilling Co.'s Chetemaches 1, sec 34-13s-9e, building new dk, td 6500 ft.

VERNON PARISH — Anderson & Kerr Drilling Co.'s Nona Mills 1, sec 25-2n-9w, dr shale 2435 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Saline Drilling Co.'s Pardee 1, ne ne 27-14n-6w, dk.

BOSSIER PARISH — Jno. L. Anderson's Leonard 1, sw sw 19-19-13, sd 3390 ft. Howard & Bird's Sam Gold 1, nw ne 36-20n-13w, dr 450 ft. L. M. Moffitt et al's C. M. Antrim 1, sw ne 26-22n-12w, dr 2575 ft. Producers O&G Co., Inc.'s, J. J. Leviston 1, se se 13-16n-12w, sd 2503 ft; W. H. Werner 1, se se 7-17n-11w, dr 3810 ft. F. M. Crow's Biedenharn 1, se se 23-21n-14w, spd 10-in csg 41 ft, dr 900 ft.

CALDWELL PARISH — Terrell & Price's La. Central Lbr. Co. 1, nw ne 18-11n-3e, fsg 2850 ft.

DE SOTO PARISH—L. H. Alderson's P. B. Peak 1, nw ne 25-11n-13w, sd 3030 ft. S. J. Barber's Horton 1, sw sw 4-11n-11w, arr set csg, td 2735 ft. Geo. LeGrand's D. T. Fulmer 1, nw sw 1-11n-16w, pb to 1965 ft, td 2255 ft. J. T. McCormick et al's Moore Place 1, ne nw 1-13n-15w, dd, td 66 ft. E. T. Oakes' Johnson 1, ne nw 30-13-15, dr oolitic lime 5278 ft.

GRANT PARISH — L. L. Lindsay, Jr.'s, Edenborn 1, se se 13-7n-4w, fsg 2360 ft.

LINCOLN PARISH—Eastern Texas Prod. Co.'s Givens Est. 1, sw ne 2-17n-4w, base Annona chalk 2765 ft, dr 2840 ft.

MOREHOUSE PARISH—Zeigen & Bacon's Crossett Lbr. Co. 1, 41-23n-6e, sr, td 2889 ft.

NATCHITOCHES PARISH—Jack Lent et al's Brown Lbr. Co. 1, ne sw 27-9n-9w, spd 12-in csg 21 ft. Missouri Drilling Co.'s Brown Lbr. Co. 1, se se 5-10n-10w, dr 735 ft. Plummer & McDaniel's Lizzie Walmsley, se sw 45-10n-8w, dr lime 5101 ft. Roy Raines et al's Fee 1, sw sw 28-9n-10w, arr set 8-inch csg 2275 ft.

OUACHITA PARISH—Wilson & Mitchell's W. L. Williams 1, sw se 5-16n-1e, hole clean dd, td 2763 ft.

RAPIDES PARISH — C. D. Loe, Tr.'s, Bentley Lbr. Co. 1, 20-5n-1w, rur.

RED RIVER PARISH — Louis L. Glass' Dickson 1, nw se 32-12n-8w, dr 400 ft. Tooke et al's J. Ober 1, nw se 5-14n-10w, did not make ds test at 1080 ft, dr 1575 ft.

SABINE PARISH—Pearl Oil Co.'s Bellieu & Carter 1, nw sw 21-9n-13w, testing 1980 ft. Geo. L. Pace's DeSoto Corp. 2, 27-10n-13w, dr 1505 ft. G. W. Longley et al's Peavy-Wilson Lbr. Co. 2, ne ne 16-5n-9w, 10-in csg 93 ft, dr 1850 ft.

WINN PARISH—Red River Ref. Co.'s Tremont Lbr. Co. 1, ne ne 35-11n-1w, dr 950 ft, Cockfield.

ARKANSAS

CALHOUN COUNTY—Mid-American Oil Corp.'s J. H. Plunkett 1, nw sw 15-14-15, sd 2520 ft.

COLUMBIA COUNTY—O. F. Whittaker's Hall 1, se ne 10-15-20, blg td 2120 ft.

FULTON COUNTY—Salem Dev. Co.'s I. S. Stephens 1, sw se 31-20-7w, dr 300 ft.

HEMPSTEAD COUNTY—Arkansas Drilling Co.'s Jones 1, ne se 11-14-24, rur.

LA FAYETTE COUNTY—Earl F. Fox's Coleman Bros. 1, nw ne 36-16-25, rur. W. H. Harvey's A. M. Allen 1, ne sw 18-19-24, rur. Douglas Lawn's Camp 1, sw se 14-15-23, dr 2089 ft.

LEE COUNTY—Ark. La. P. L. Co.'s E. McDonald 1, sw sw 28-1n-4e, dr 2230 ft.

MILLER COUNTY — Beverly Oil Co.'s Commercial Nat. Bank 1, ne se 30-17-28, dk. Magnolia Pet. Co.'s Olivet 3, ne ne 4-16-26, sd 2959 ft. Lee Timberlake's E. L. Beck 1, nw se 33-15-26, dr 2870 ft. Jno. Wrather's E. V. Olivet 1, nw ne 4-16-26, wosr, td 2937 ft.

UNION COUNTY — Alexander-Head Oil Co.'s Union Sawmill Co. 1, sw sw 28-17-13, dr 250 ft. Bellevue Corp.'s J. W. Greening 1, se sw 30-18-15, dr 2040 ft.

MISSISSIPPI

CLARKE COUNTY — Clarke Company Oil Co.'s S. B. Kirkland 1, 10-2n-16e, mim.

FRANKLIN COUNTY — E. R. Ratcliff's Homochitto Lbr. Co. 1, ne se 20-5n-2e, elev 283 ft, dr 4510 ft.

GREENE COUNTY — United Gas. Pub. Serv. Co.'s Davis 1, nw nw 30-1n-5w, dr 7265 ft.

HANCOCK COUNTY—Gulf Ref. Co.'s R. J. Williams Land Co. 1, ne ne 11-8s-15w, spd wocs 12½ in csg 42 ft.

ISSAQUENA COUNTY — Pelican Oil & Gasoline Co.'s Steel Bayou Corp. 1, sw nw 14-12n-8w, dr rock 2308 ft.

JONES COUNTY—Snow-Black Pet. Co.'s Watson 2, ne sw 24-7n-13w, dr 989 ft.

MONROE COUNTY — Miss. Pub. Serv. Corp.'s Edwards & Carter 1, ne se 12-13-18, elev 450 ft, rog. P. J. McAlpine's Chas. Rye 1, se sw 22-15-17w, arr shoot formation, td 2917 ft.

NEWTON COUNTY — Dalton Dev. Co.'s Majure 2, se se 25-6n-11e, dd, td 3350 ft.

PEARL RIVER COUNTY—Gulf Ref. Co.'s May L. Williams 1, se ne 35-5n-17w, wocs 6⅝ in csg 3696 ft, td 3707 ft (corrected depth).

SIMPSON COUNTY—Berry Corp.'s Berry 2, sw sw 33-2n-4e, wocs 6⅝ csg 2048 ft.

WARREN COUNTY — Harry W. Elliott's R. L. Parker 1, 14-14n-1e, si, td 3200 ft.

WASHINGTON COUNTY — Perkins & Dees' Lee 1, nw sw 33-15n-8w, dr 1026 ft.

ALABAMA

CLARKE COUNTY — Magnolia Pet. Co.'s Scotch Lbr. Co. 1, sw ne 17-10n-3e, elev 354 ft. top Selma chalk 1702 ft, dr chalk 2670 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, sd 1820 ft. Selma chalk.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15-16, arr set csg, td 4150 ft.

FLORIDA

WALTON COUNTY — Oil City Corp.'s Walton L. & T. Co. 1, 12-1n-19w, dr 4701 ft.

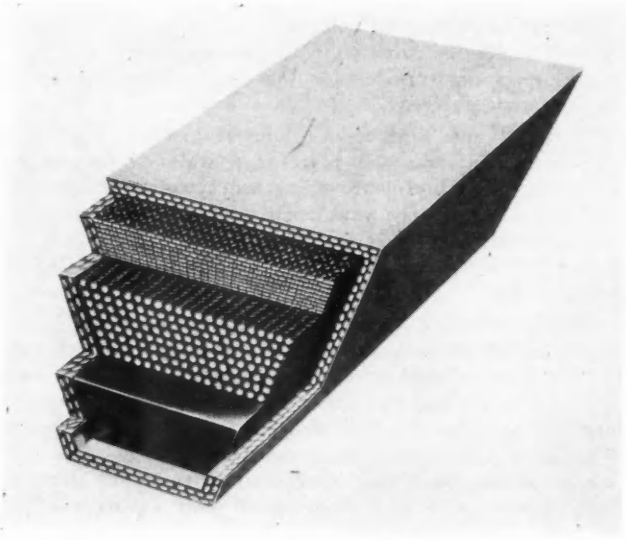
TENNESSEE

HAYWOOD COUNTY—E. R. Henderson et al's Jarrett 1, near Brownwood, dr 1856 ft.

New Equipment for the Field

Machinery . . . Tools . . . Catalogs . . . Books

▼ ▼ ▼



Goodrich Multi-V Belt

Belts

B. F. GOODRICH RUBBER COMPANY

B. F. Goodrich Rubber Company, Akron, Ohio, has announced an improved construction in Multi-V belts manufactured by the company. Preservation of balance was considered, and the three layers are balanced to resist stretch and cover wear. The manufacturer states that the new type belts are compounded to reduce internal heat to a minimum.

Explosive Container

SYNTHANE CORPORATION

A new type of explosives container has been introduced by Synthane Corporation of Oaks, Penna., in conjunction with C. O. Rison of Oklahoma City.

The principal advantages of the new container are:

1. Constructed of laminated bakelite which is non-metallic, moisture resistant and unaffected by oil.

2. Makes possible low overall shooting costs by eliminating long and expensive cable tool cleaning out jobs. On explosion the containers are blown into small bits. Fragments not ejected or floated out do not tend to form bridges or plugs in casing or well. Generally there is no need for drilling out bridges after the shot so that wells can usually be swabbed in or bailed and put back on production immediately.

3. The dense tough structure of Synthane-Risonite minimizes transfer of heat, and resists abrasion. This tends to reduce the hazard of premature explosion ordinarily chargeable to abrasion, rupture and heat generated by friction.

4. Light in weight, much easier to handle and lower than metal shells. Synthane-Risonite containers are not readily punctured or broken because of their high strength-to-weight ratio.

Synthane-Risonite explosives containers have met with considerable success in the deep wells of the Oklahoma City Field and it is expected their use will spread rapidly. C. O. Rison, general superintendent of oil production for Indian Territory Illuminating Oil Company, Oklahoma City, Oklahoma, is responsible for the development of the container and has applied for a patent covering its features.

Gas-Engine-Driven Air Compressor

THE COOPER-BESSEMER CORPORATION

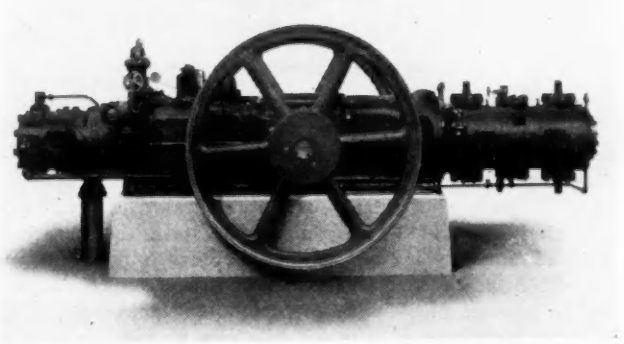
The G-MG gas-engine-driven air compressor has been developed by The Cooper-Bessemer Corporation, Mt. Vernon, Ohio, to furnish air for the pneumatic pumping of oil wells. While the compressor cylinder end of of this engine has special features that were designed to meet the conditions imposed by this particular method of pumping, the unit is also applicable wherever an air or gas compressor of its size is used.

The power end of this unit is an adaptation of a standard G-AG oil field two-cycle engine. The power cylinder is the same diameter and stroke and has the same auxiliary equipment, such as magneto, governor, lubricator, etc. This was done so that oil companies using the G-AG standard oil field engine will not need to carry a duplication of spare parts if they wish to use the pneumatic method on a part of their wells.

The engine bed has been extended with a bolt circle for attaching the compressor cylinder. A longer wrist pin than is used in the regular pumping engine permits the attaching of distance rods to the main crosshead for driving the compressor. This method of drive allows the connecting rod and crosshead, as well as the crank shaft and main bearings, to be the same as are used in a standard pumping engine.

The compressor end is an adaptation of a standard Cooper-Bessemer double-acting compressor cylinder. It is built with a removable cylinder liner and the construction is such that this liner can be changed to give a limited range of diameters.

Standard concentric ring plate valves of the same type



Cooper-Bessemer Compressor

that have been used in the large 1000 to 1500 horsepower Cooper gas and air compressors are used in this small unit. One end of the cylinder is used for the circulating compressor; the other end provides the make-up air.

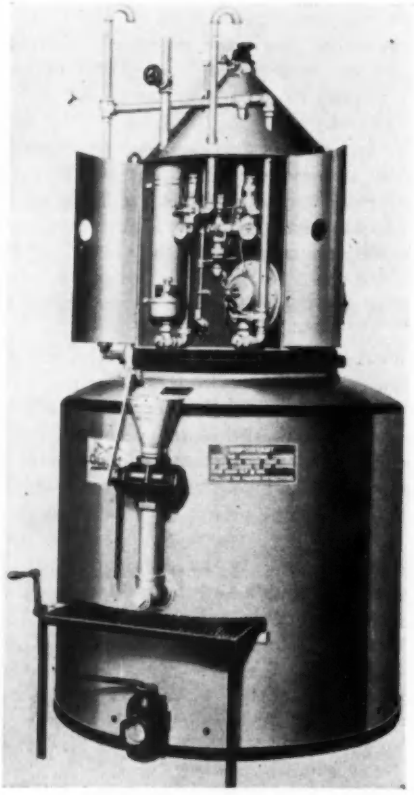
A special piston rod packing consisting of six grooves of metallic packing and three grooves of composition soft packing separated by a lantern ring is used on the compressor piston rod. An automatic control operating on the suction valve of the make-up end maintains a constant quantity of air in the entire system, even though the amount of leakage from day to day may vary.

The unit is rated 35 horsepower at 210 revolutions and 50 horsepower at 300 revolutions. A larger size unit of this same general design using standard G-AO pumping engine parts is also available. This unit is rated 45 horsepower at 200 revolutions and 65 horsepower at 300 revolutions.

Acetylene Generator

THE LINDE AIR PRODUCTS COMPANY

The Linde Air Products Company, 30 East 42nd Street, New York, announces a new automatic stationary generator, known as the Oxweld Type MP-5, and which is rated to deliver 1000 cubic feet of acetylene per hour.



Linde Acetylene Generator

The feed is of the gravity type of advanced design. The feed control unit is self-contained and is bolted to the inside of the carbide hopper. The feed valve unit is actuated by a diaphragm. Pressure on the diaphragm is exerted by a housed and loaded spring unit. The spring is encased in a small housing and set at the factory to deliver about 13 pounds per square inch pressure. This can be changed within a range of about two pounds per square inch by an external adjustment. The set pressure feature does away with the necessity of setting the pressure when the machine is started. The pressure variation within the generator is not more than three quarters of a pound, and this variation is nullified in the service line by the built-in Oxweld Type R-57 Regulator.

The carbide-charging door, the waterfilling opening, the residue valve, and the handhole have been built on generous proportions so that time can be saved in emptying, recharging, and inspecting. The carbide hopper affords the greatest operating efficiency combined with easy cleaning; and the regulator filter unit, with its large capacity pads, is within easy reach inside the handhole.

Instead of having an external hose connection manifold, it has the service valve which is necessary on a stationary machine on the service pipe that leads directly from the back-pressure valve.

A funnel and a three-inch lubricated water filled valve and vent cock take the place of a water-filling cap and overflow plug. The water-filling valve has an interference rod that operates the vent cock on a pipe leading to the outdoor vent line. This system makes it impossible to add water unless the cock is open to allow for the displacement of gas.

The relief valve arrangement on the Type MP-5 generator is particularly interesting. A separate relief valve with a separate outdoor vent line is provided for the back-pressure valve, and two other relief valves with a common outdoor vent line are provided for the generator chamber. Two relief valves are used because of the high capacity of the generator, and also because it is easier to get good seating and prevent leakage when two valves are used instead of one large one.

The Oxweld Type MP-5 Acetylene Generator is provided with a hopper that has eyelets around the top so that it can be removed with a block and tackle. Since a charging platform is usually built alongside a stationary generator, none has been provided on the new generator.

To insure a gas tight seal and to lessen slaking when the generator is out of service for long periods, a soft rubber seat is provided on the hopper outlet.

The hydraulic back-pressure valve and the reservoir are combined in one shell. The reservoir protects against accidental loss of water from the back-pressure valve and prevents water from backing into the regulator. An intermediate valve on one side of the hydraulic back-pressure valve and the service valve on the other make it possible to check the water level without escaping gas or loss of water.

Voltage Booster

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has announced a low priced, pole-mounted, booster which automatically changes a feeder's voltage either five percent or 10 percent in a single step. This new Type B Feeder Voltage Booster is particularly suitable for maintaining proper voltage for rural lines, isolated loads, or distribution circuits where the load changes once or twice daily from very light to practically full load. Single phase 60 cycle boosters range from 1½ kv-a. at 2400 volts up to 50 kv-a. at 6900 volts. Three phase three-wire circuits require two units connected in open delta: three phase four-wire circuits require three units in star. The booster is ordinarily controlled by line current, but can be operated from line voltage, if desired. Also, a special design is available for bucking instead of boosting voltage.

CATALOGS BULLETINS

Helpful publications which manufacturers will be glad to send upon request

Portable Compressor

A bulletin of decidedly original design and make-up has just been issued by Ingersoll-Rand. It sets forth in a novel and interesting manner the many advantages of the company's Two-Stage, Air-Cooled Portable Compressor.

This unit is built in five sizes, ranging from 75 to 370 cfm. piston displacement. It is supplied in a large variety of mountings—from a steel-wheel mounting, with a towing speed of 10 miles per hour, to the two-wheel trailer mounting, which can be towed by a truck at 35 miles per hour.

Both the oil-engine- and gasoline-engine-driven units are shown in the new bulletin, which gives details as to the amounts of fuel savings that can be expected, compared to operation of single-stage, water-cooled compressors. The savings outlined are those that result from two-stage operation, the use of an air-cooled intercooler, and from certain design features to which attention is called.

Pumping Jacks

The National Supply Company, Toledo, Ohio, has published bulletin No. 534, which supersedes No. 1032-B. The new bulletin describes National pumping jacks, types D-80, D-100 and D-130-S. The type "D" jacks are a new design based on several years of experience with this type of welded underpull jack. They are especially designed for the long-stroke pumping of deep wells.

Plug Valves

An interesting bulletin describing the application of plug valves to oil and gas well drilling has just been issued by Merco Nordstrom Valve Company, Pittsburgh, manufacturers of Nordstrom Lubricated Plug Valves. The bulletin is profusely illustrated showing actual installations of valves on steam and water lines, mud lines, blow-out preventers, Christmas trees and tanks. Illustrations of "drilling through" valves are also shown.

The interesting photographs include installations of round-opening gear-operated valves and types equipped for remote operation by means of tubing and large hand wheels. Specifications, blue-prints and illustrations of individual valves are shown, including standard semi-steel Nordstrom valves, extra heavy, semi-steel valves; also the Emco-Nordstrom valves which have the same face-to-face dimensions as gate valves for the same given size. High pressure valves up to 5000-pound test pressure are included.

Valves

A bulletin that completely describes what is known as the Emco-Nordstrom Valve has been issued by Merco Nordstrom Valve Company, Pittsburgh. The manufacturers have designed the valve in all sizes from two to 12 inches, to permit installation where gate valves of the same dimension have been installed.

Bulletin No. "V-102" includes illustrations, blue-prints and specifications covering the different types for various working pressures. Flanged and screwed valves are shown; also types for worm gear and wrench operation.

Lubricant under pressure is introduced hydraulically along grooves on the plug, forming a substantial seal to prevent internal and external leaks. This is the same principle of lubrication as is used in the standard Nordstrom valves.

Aluminum Paint

Because experienced users of paint are now thinking in terms of "feet of coverage" rather than in gallons, Aluminum Industries, Inc., Cincinnati, Ohio, producers of Permite Aluminum Paint, has sponsored the publication of a booklet entitled "Buy It By the Foot", which explains the latest methods of manufacturing and applying aluminum paint, and illustrates various types of jobs on which this type of paint was used.

Protection against all conditions of weather, especially moisture, and corrosion; protection against sulphurous fumes and excessive heat; protection for the surface against dust and dirt, are examples which are pictured in the booklet.

Cooling Towers

A new bulletin on aerated-type cooling towers has just been issued by Fluor Corporation of Los Angeles.

This bulletin illustrates the latest Fluor installations and describes in detail Fluor construction, methods of water distribution and design features.

Insulated Cable

A new 80-page reference book on "How to Select Insulated Cable" has been published by General Electric Company. Designated as GEA-1837, the publication covers cable for the transmission and distribution of electric power at normal frequencies, and presents in convenient form the information that is required in determining the cable best adapted for a particular installation.

Two methods of selecting conductor size are given. The first, a comparatively simple one, covers cable for wiring houses, buildings, small industrial plants, and similar applications. The other method, more detailed, includes 27 tables of current-carrrying capacities.

The various types of insulation and finish are described, and tables of thickness are given. Tables of wire gauges and dimensions, sizes of shipping reels, and a bibliography are also included.

Speed Reducer

A new 32-page illustrated catalog No. 1415, with horse power and other engineering data, dimension diagrams, etc., has recently been issued by Link-Belt Company, Philadelphia, Chicago, San Francisco, from whom a copy may be obtained by request made on business letterhead. The book covers single, double and triple reduction units of herringbone gear type; also a full line of flexible couplings.

Valves

An unusual piece of valve literature is the 12-inch cut-out replica of a Jenkins Standard Iron Body Gate Valve recently prepared by Jenkins Brothers, 80 White Street, New York.

This cut-out is next best to having the real valve inspection, as it provides an exact reproduction of both the exterior and the mechanism of a heavy valve.

Welding

Linde Air Products Company, 30 East 42nd Street, New York City, has issued a 24-page booklet on "The Testing and Qualification of Welders" which will be mailed upon request.

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NEWS *from the* *Industry's* EQUIPMENT MAKERS

Price-Trawick, Inc., Opens Store at Kilgore, Texas

Price-Trawick, Inc., of Stroud, Oklahoma, manufacturers of the P. & T. Kick-Off Unit, announces the opening of a new office and warehouse at 219 South Commerce Street, Kilgore, Texas, with Fred Price and Lee Delf in charge of sales, and Edward Riley in charge of store.

Price-Trawick, Inc., are now represented in five of the major oil fields of the United States. Besides the new Kilgore office and warehouse, they are represented in the Gulf Coast by Gulf Engineering Company, Houston, Texas; Buck & Stoddard, Inc., Los Angeles, California; Price-Trawick, Inc., 1111 S. E. Twenty-ninth Street, Oklahoma City, and the home office, at Stroud, Oklahoma.

Several Promotions Given in Emsco and D & B Companies

E. M. Smith, president of Emsco Derrick & Equipment Company, has announced the appointment of Charles D. Wagner as vice president and manager of the D & B Pump & Supply Company, division of Emsco. Mr. Wagner for the past 10 years has been vice president and sales manager of Emsco Derrick & Equipment Company. For over 20 years he has been active in the sales and development of pumping equipment.

Harry C. Morehouse has been appointed sales manager to succeed Mr. Wagner. Mr. Morehouse has long been active in the sales and engineering work of the supply business and has for the past eight years been assistant to E. W. Goeser, vice president and manager of production, also acting as liason officer between the engineering, manufacturing and sales departments.

L. C. Scott has been appointed sales manager of Mid-Continent division of D & B Pump & Supply Company. Mr. Scott has for many years been active in the pumping equipment field covering the whole Mid-Continent, both in sales and development work.

Nemser Appointed Development Engineer International Nickel

Dr. J. F. Thompson, vice president, The International Nickel Company, Inc., has announced the appointment of D. A. Nemser as development engineer, with headquarters in Hartford, Conn.

Mr. Nemser was for 10 years associated with the metallurgical staff of Pratt & Whitney Manufacturing Company, Hartford, Conn., occupying the position of chief metallurgist for the last five. During that time he exercised metallurgical control over the production of their entire line of products, embracing machine tools, small tools, gauges and aircraft engine parts, and supervised gray iron foundry practice.

In his new capacity Mr. Nemser will work with manufacturers throughout the New England territory on problems involving the selection, heat treatment and utilization of nickel alloy steels, nickel cast irons and other alloys containing nickel; placing at the disposal of these manufacturers not only his own metallurgical experience, but also the broad experience of The International Nickel Company, Inc., with a great variety of manufacturing problems.

Mr. Nemser graduated, in 1919, from The Carnegie Institute of Technology, Pittsburgh, Pa., with the degree of Bachelor of Science in Chemical Engineering. Prior to joining the metallurgical staff of the Pratt & Whitney Manufacturing Company, Mr. Nemser was associated with the Atlas Steel Corporation, Dunkirk, N. Y.; MacBeth-Evans Glass Company, Charleroi, Pa.; and the Henry Souther Engineering Company of Hartford, Conn. He has been a member of the American Society for Metals for nine years, and is a past president of the Hartford Chapter.

McGregor Engineering Appointed Edwards Valve Representative

The Edwards Valve & Manufacturing Company, Inc., East Chicago, Indiana, announces the appointment of McGregor Engineering Company, 213-14 Midco Building, Tulsa, Oklahoma, as its representative in Oklahoma, northern Arkansas and the Texas Panhandle, for the sale of high-pressure high-temperature valves for refinery and boiler plant service.

Volcano Burner Company Names Houston Distributor

Volcano Burner Company of Tulsa, announces appointment of Henry H. Paris in Houston as distributor for its products in the Gulf Coast. Mr. Paris has warehouse facilities and office at 1121 North San Jacinto Street.

Houston Oil Field Materials Opens Eunice, New Mexico, Store

Houston Oil Field Material Company, Houston, announces the opening of a Homco store at Eunice, New Mexico, which will serve operators in the North Jal field extension area as well as offer convenience for the Hobbs and other fields of that area. S. "Smokey" Baker has been appointed manager of the new store.

FRED E. COOPER, developer of oil field machinery for Allis-Chalmers and Rumely equipment, has returned to Tulsa after a three-weeks trip through New York, Pennsylvania and West Virginia. On the return trip he came back by way of Michigan.

CHARLES D. WAGNER

HARRY C. MOREHOUSE

Squeaks *from the* BULL WHEEL

"Why do you close your eyes every time you take a drink?"

"My doctor says I must not look at liquor."

"What are they moving that church and the schoolhouse for?"

"I'll tell you. I'm mayor of this here diggin's an' I'm in fer law enforcement pure an' simple. We've got an ordinance what says they hain't to be no saloons within 300 feet of a church buildin' er schoolhouse, an' so we're movin' the church an' the school."

"Did you sew a button on my coat?"

"No, honey bunch. I couldn't find the button and so I sewed up the buttonhole."

Three blood transfusions were necessary to save a lady patient's life at a hospital. A brawnie young Scothman offered his blood. The patient gave him $50 for the first pint, $25 for the second pint—but the third time she had so much Scotch blood in her she only thanked him.

Saw Bill just rushing into a shop. Sezze, don't stop me; I'm going in here to buy a cover for my typewriter. Sezzi, but that's a fur shop. Sezze, well?

"Pop, what is a pedestrian?"

"A pedestrian, my son, is the raw material for a motor accident."

"How do you afford such long vacations?"

"Easily. One month on the sands and eleven months on the rocks."

Clarice (motoring)—"I said you could kiss me, but I did not say you could hug me."

Henry—"Oh, that's all right; I just threw in the clutch."

An angry man lashed into the editor's office. "Look fiere," he cried, "I wrote a poem about by little son, and began the verse with the words:

"'My son, my pigmy counterpart.'"

"Yes?" replied the editor.

The poet pointed to the poem in the paper. "Read that," he stormed, "and see what your fool of a compositor has done!"

"My son, my pig, my counterpart."

"On her eighteenth birthday, I gave my daughter her first front door key."

"That was the proper modern spirit, old man."

"Not necessarily—I just got tired having her knock off the milk bottles crawling through the pantry window."

Teacher: "Now, if I subtract 25 from 37, what's the difference?"

Little Willie: "That's what I say, who cares?"

Young Lady (just operated on for appendicitis): "Oh, Doctor, will the scar show?"

Doctor: "Not if you're careful."

"My wife tells me I talk in my sleep, doctor. What should I do?"

"Nothing that you shouldn't."

"No, I didn't say she was Dutch, I said she was a 'wooden shoe' girl."

"Wooden shoe, how come?"

"Oh, wooden shoe buy me this and woodenshoe buy me that, you know."

Frenchman: "You have to fill in the nationality blank also, sir. You are a Spaniard, n'est ce pas?"

Spaniard: "No, sir. I'm English. My mother and father were English."

Frenchman: "But you were born in Spain."

Spaniard: "That's nothing. If your dog had pups in the china closet, would you call them soup plates?"

I love your eyes, I love your hair,
Your figure suits me very well,
Your beauty is perfection rare,
But, darling, you are dumb as hell.

An extra girl in Hollywood was playing a practice round of golf alone. On the fourth fairway she stooped over to tie a shoelace and as she did so a ball driven by a member of a foursome on the third tee smacked her.

The man who had hit her ran up to apologize. Before he could say a word she began to berate him.

"Sir," she snapped, rubbing the sore spot,, "your ball hit me right in the middle of the back."

"It didn't look to me like it was the middle of your back," he said.

"Well, you're a stranger to me and therefore it's the middle of my back to you."

You can get along without PELCO

. . . but a lot of mighty fine oil men won't try it! You cement many friendships in twenty-five years or so. If you stick to one area you learn a lot about equipment. If you know metallurgy and heat treatment and that sort of thing, and if you keep your mind open and your plant flexible, you come in time to give the industry exactly what it wants. And if you don't make it yourself, you know who does. You can't buy anything from PELCO that isn't right for the field where it's sold!

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DRILL PIPE CASING—We are in position to make prompt delivery on Drill Pipe Casing to any point in the Mid-Continent or Gulf Coast. This is sold f.o.b. any point in these territories. We now have several strings 6⅝-inch O.D. (6¼-in.) 10thd in Kilgore, Texas, and Wichita, Kansas, yards ready for delivery anywhere. All shopped in our Wichita plant. New threads and new couplings throughout. Upset bored out (not cut-off as usually practiced) so that couplings fit snug and tight, the same as on new pipe. It will pay operators to consider the saving that may be made in using this fine quality pipe for the oil string.

6-INCH LINE PIPE—CENTRAL WEST TEXAS—35,000 ft., 6-in. (6⅝ in. O.D.) 19.60-lb., screw end Line Pipe. Excellent grade and unusual bargain. Almost new—much of it showing original new finish and lettering. Entire lot only offered. Priced low for removal anywhere from original line location. Interested parties should contact us at once before pipe is moved into stock. Phone or wire—Wichita, Kansas, LD-59—Collect.

BOILERS — PANHANDLE TERRITORY—(1) 80-h.p., 180-lb. W. P. Used Oil Well Boiler—new crown sheet and new flues. (2) 80 h.p., 180-lb., W. P. Used Broderick Boilers in excellent condition. These three boilers would make a good battery for rotary drilling. They are all complete with stacks, handhole and manhole plates, firebox and flue doors. Domes over firebox. Ready for delivery from Pampa, Texas, yards. Also have a number of 60-h.p., 150-lb. W. P. Donovan Boilers in good condition in Pampa yards. Phone Pampa, 884 for prices and detailed information.

USED SUCKER RODS—2500-ft, extra good ⅝-inch at Pampa. Also several strings of ⅝-inch at Pampa. One string ⅝-inch at Kilgore. Several strings ¾-inch, ⅝-inch and ⅞-inch at Wichita. Rods all good condition and offered at very attractive prices. Contact the nearest store or Wichita, Kansas, offices.

RENTAL MUD PUMP AT TULSA—For rental: 10-in.x5⅞-in.x12-in. Oil Well Mud Hog Pump suitable for service in connection with well pulling in Tulsa vicinity. Carried in stock at Tulsa. Nominal rental fee or may be purchased at reasonable price. Contact Ralph Hague, Phone, 4-8580 or Wichita Office.

NEW AND USED TUBULAR PRODUCTS AT TULSA—For quick service on tubular products at Tulsa, contact our Sales Representatives: Ralph Hague, Phone 4-8580 or Paul Edkins, Phone 6-2609. We maintain a used pipe distributing yard at Tulsa and can make prompt deliveries on new material from Memphis and Mill stocks and from yard stocks located in convenient points throughout the Mid-Continent and Gulf Coast.

USED LINE PIPE—PAMPA—Several miles of extra good quality 2-inch and 3-inch Line Pipe in Pampa yards.

USED LINE PIPE—HOUSTON — Several miles 2-inch, 1800-lb. test, 11½thd, best grade, attractive price. About one mile of 2-inch, 2000-lb. test. Several miles 2½-inch, 8thd. A mile and a half of 3-inch. Several hundred feet of 6-inch. All good sound pipe. Contact Houston Store, Phone C-1301 or LD-203.

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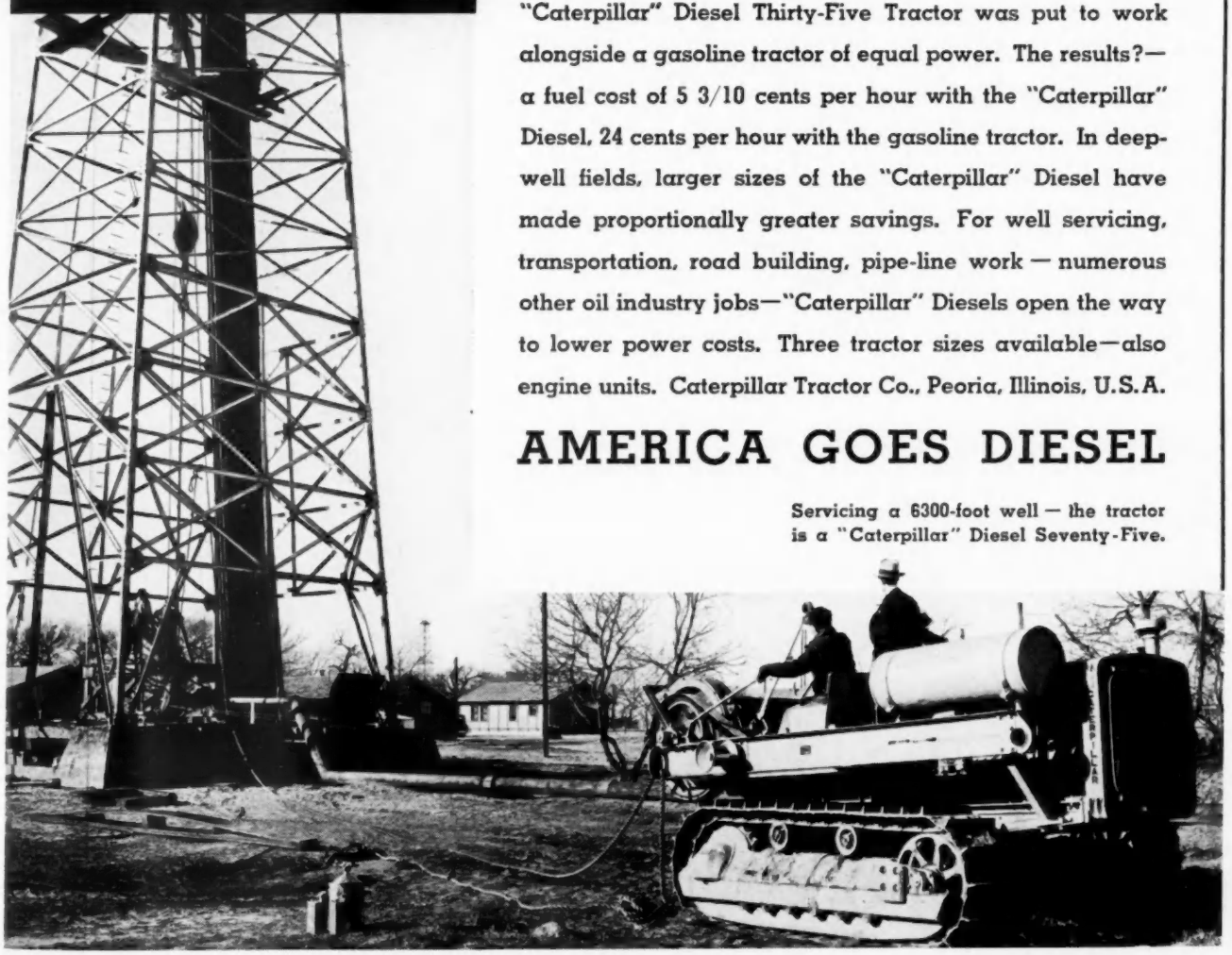
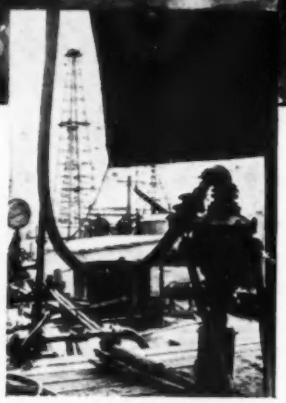


YOUR SCRAP PILE TELLS YOU AN *interesting* STORY



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Make a study of your scrap pile. It may tell you where many losses occur, how they occur and why. Then call in a "U. S." representative, tell him to prove to you the greater economy of his product. A letter or phone call will bring a representative without obligation.

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